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ABSTRACT

The Johnsburg High School (McHenry, Illinois) curriculum project was designed to accomplish the following eight objectives: (1) develop a competency curriculum guide for a graphic arts program that will provide lessons for the instructor to use to implement this program; (2) determine job competencies, including minimum competencies for job entry; (3) determine career ladders and criteria for promotion in this field; (4) develop a list of teaching resources; (5) field test materials developed and make the needed changes; (6) print in quantity for each school to receive a copy; (7) disseminate material developed statewide by the use of workshops and demonstration days at the school; and (8) develop the materials in two parts, including a curriculum guide for the classroom teacher's use and self study packets for students' use. First, a review of the literature was conducted to find available materials. In addition, the advisory council was expanded to provide input from business and industry. Finally, the guidelines found in "Specification and Model Format for Curriculum Programs" were followed in the development of the materials. The results were intended as a model for all vocational programs in the school to use in developing competency-based programs. (A major portion of this document contains the lists of identified competencies, the lesson plans developed for Graphic Arts courses I and II, and an appended bibliography and resource lists.) (Author/BM)

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TO DEVELOP A COMPETENCY-BASED

CURRICULUM GUIDE FOR A GRAPHIC ARTS

VOCATIONAL PROGRAM FOR SECONDARY SCHOOLS

PROJECT NUMBER ~~79-133-4161-8~~
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U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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TO DEVELOP A COMPETENCY-BASED CURRICULUM GUIDE FOR A GRAPHIC ARTS VOCATIONAL PROGRAM FOR SECONDARY SCHOOLS

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TABLE OF CONTENTS

Title Page

Project Director - 1

Table of Contents - 2

Abstract - 3

Narrative Description of Project - 4

Time Table of Activities - 6

Project Participants - 7

Resource People - 8

Summary of Data Collected - 10

Recommendations for Future Activities - - - - - - - - - - - - - - - - - - - 16

List of Competencies - 17

Graphics I Lesson Plans - 22

Graphics II Lesson Plans - 98

Appendix - 159

Bibliography - 160

Related Curriculum Guides - 163

Equipment and Supplies - 167

Occupational Opportunities - 173

ABSTRACT FOR FUNDING AGREEMENT
WITH ADULT, VOCATIONAL AND TECHNICAL EDUCATION

OBJECTIVES OF PROJECT:

1. Develop a competency curriculum guide for a Graphic Arts program that will provide lesson plans for the instructor to use to implement this program.

2. Determine job competencies including minimum competencies for job entry.

3. Determine career ladders and criteria for promotion in this field.

4. Develop a list of teaching resources.

5. Field test materials developed and make the needed changes.

6. Print materials in quantity for each school to receive a copy.

7. Disseminate material developed state wide by the use of workshops and demonstration days at the school.

8. Material will be developed in two parts:

    a. Curriculum Guide for classroom teacher to use (daily lesson plans).
    b. Self study (individualized) packets for students to maintain pace.

PROCEDURES OF IMPLEMENTATION:

1. Conduct a review of the literatures to find what material is now available and adopt this to this program.

2. Expand the present advisory council to provide input from business and industry.

3. Follow the AVTE publication entitled Specification and Model Format for Curriculum Programs in developing this project.

CONTRIBUTION TO VOCATIONAL AND TECHNICAL EDUCATION:

1. Provide a competency based curriculum guide that has the capability of being transported to other sites on a state wide basis.

2. Provide a demonstration center for educators to visit to observe this program in use.

3. Develop a competency based program for a model to be used for all programs to use to develop curriculum materials in the school systems.

NARRATIVE DESCRIPTION OF THE PROJECT

Vocational teachers in local educational agencies are constantly aware of the need for new or updated curricular materials which will provide youth and adults with job entry and job advancement skills. A need exists to provide these teachers with competency-based curriculum guides. For these guides to be accepted and used they must cover a full year and be developed down to the daily lesson plan format. Also the curriculum guide will provide an individualized self study program for student to advance at their own pace.

The format for this curriculum project will follow the AVTE publication entitled Specifications and Model Format for Curriculum Products.

The project director has developed two competency-based curriculum guides in the last three years. These have been widely accepted in the state and are being used in secondary schools.

This curriculum guide will show how other vocational programs fit in and provide training in this program. An example of this is: The Art Department will be involved in teaching the design and illustration of material to be printed. The Drafting Department will be involved in teaching layouts. The Journalism and English Departments will teach the writing and editing skills needed. The Business Department will teach the typing and related skills for keyboard type setting equipment. With this type of planning many teachers are involved in training programs. When all of these components are combined in a competency-based curriculum, high schools will be able to provide industry with well trained young men and women with entry level skills.

Having worked in vocational education for the past 25 years and worked with many vocational teachers, the project director believes the format and depth that the curriculum guide will follow as described in the following pages will be a usable project that will have an impact on occupational education.

The overall objective of the Johnsburg High School is to have all programs, both academic and vocational to be competency based. This project is to develop a competency-based curriculum guide for the Graphic Arts Vocational Program. The format developed will be used to develop competence guides in all classes offered at this comprehensive high school.

TIME TABLE OF ACTIVITIES

FEBRUARY

Week 1 - Planning

Week 2 - Plan activities with consultants, hire researcher

Week 3 - Contact educators and curriculum specialists

Week 4 - Visit educators and curriculum specialists

MARCH

Week 1 - Interview high school, college, vocational center teachers

Week 2 - Interview high school, college, vocational center teachers

Week 3 - Interview high school, college, vocational center teachers

Week 4 - Contact industry people and begin conducting interviews

APRIL

Week 1 - Interview related industry people

Week 2 - Interview related industry people

Week 3 - Write list of competencies for graphics I and graphics II

Week 4 - Make a list of tools and materials needed for graphic arts laboratory

MAY

Week 1 - Write objectives for graphics I

Week 2 - Write graphics I lesson plans

Week 3 - Complete writing graphics I lesson plans

Week 4 - Write objectives for graphics II

JUNE

Week 1 - Write graphics II lesson plans

Week 2 - Complete writing graphics II lesson plans

Week 3 - Revise graphics I and graphics II lesson plans

Week 4 - Compile all data for final report

PROJECT PARTICIPANTS

Steve Pollock - Project director

Connye Barrow - Consultant

Wayne Ramp - Consultant

Rick Keber - Research developer and instructor

RESOURSE PEOPLE

HIGH SCHOOLS

Waukegan East	Al Trafford
Waukegan West	Jerry Haapenen
Maine East	Ron Rathberger
Maine West	Dan Johnson
Addison Trail	Norm Sturm
Aurora East	Lloyd Gannegan
Elgin	Kent Brown
West Leyden	Kent Gundlach
Hersey	Leonard Wilson
Barrington	Dan Ham
Bloomington	Mr. Baker
Morton	Dan Heinhold
Fenton	Paul Kolar

VOCATIONAL CENTERS

Lake County Area	Paul Aken
Rockford Area	Matt Paris
Mid Valley	Chuck Lawrence
DuPage (DAVEA)	Roger Boase
Will County Area (WILCO)	Dale Imig
Macomb Area	Dennis Carson
Galesburg Area	Tom Lantz
Pekin Area	Doug Koschel

COLLEGES

Northern Illinois University	Ron Glogovsky
Illinois State University	Fred Kagy
Rock Valley Junior College	Roy Larsen
Triton Junior College	Lon Yeary
Chicago State University	John Smith
Western Illinois University	Bud Meline Joe Metcalf

INDUSTRIES

Black Dot	Dwight Burger
McHenry Plaindealer	Larry Lund
D. C. Cook	Don Kruse
Crown Color	Keith Van Buren
Charles Munder and Company	Glenn Neehouse
Hagen and Associates	Jerry Hagen
McHenry Printing Services	Dick Nethaway
Carpentersville Freepress	Earl Bennett
Gurnee Litho	Dick Peklay
McConnel Lithographic	Bob Crowley
Schmidt Printing	Dale Brown
Graph Tech	Ben Michael
Intermatic	Hank Miller
R and W Graphics	Russ Schell
Helfert Printing	Russ Schell
Jobs Incorporated	Abby Rose
Fox Graphics	Philip Mangione
Matthews Company	Sal Cordela
Lakeland Publishers	Joel Kelly
Uarco Company	Ray Huen
American Hospital Supply	Don Staff

SUMMARY OF

DATA COLLECTED

HIGH SCHOOL_____

1. What is the average size of your classes?

2. What classes are taught in graphic arts?

3. How much money is budgeted to graphic arts?

4. Is your program oriented to vocational preparation?

5. What percentage of your students work in the graphic arts field after high school? This includes enrollment in college graphics courses.

6. Do your students work in local print shops?

7. Is there a placement center in your school?

8. Do you use performance objectives in your teaching?

9. What methods of evaluation and reporting do you use?

10. Do you use wall charts as teaching aids? If so, some examples.

11. Do you do your own in-district printing?

12. How many months a year does your printing shop run?

13. Is there anything unique about your graphic arts program?

14. Is there any relationship between the graphic arts program and the other departments in your school?

    a. Drafting

    b. Business

    c. Art

    d. English

    e. Journalism

15. What type of equipment do you use in your print shop?

COMPANY NAME_____

PERSON INTERVIEWED_____

1. What kind of work does your company presently do?

2. What are the different jobs that are involved in your company? Do you have printed job descriptions?

3. What competencies or skills do these jobs require?

4. What are the starting salaries for the different positions in your company? How high could each salary go?

5. Is there room for advancement in your company?

6. What direction is the printing industry going?

7. Would you recommend that young people go into business for themselves?

8. What skills would you like to see a high school student have when entering your company?

9. Does college graphic arts help prepare the person for work in your company?

SUMMARY OF EDUCATIONAL DATA

1. What is the average size of your classes?

   The size of a first level graphic arts class averaged between 20-22 students, while the average for a second level graphic arts class dropped to about 19 students. Where a vocational program was present, the total varied between 2-22 students depending on the school's enrollment and the establishment of the program.

2. What classes are taught in graphic arts?

   Most schools offer a three course sequence of orientation, graphic arts I, graphic arts II. The course names are different for every school, but these are the most widely used.

3. How much money is budgeted to graphic arts?

   This varied too greatly to give a consistent amount. A rough estimate would be $2,000 to $4,000 a year.

4. Is your program oriented to vocational preparation?

   About 50%-60% of the schools interviewed are vocationally oriented.

5. What percentage of your students work in the graphic arts field after high school?

   This again varied greatly depending on the curriculum being taught. It approximately rounded off to 45%.

6. Do students work in local print shops?

   Most schools had a couple of students from the classes working after school and in the summer in local shops. These were usually only the best students in the classes.

7. Is there a placement center in your school?

   Only a couple of schools involved had placement centers. These usually were in vocational centers. Most of the placing was done by employers calling the teacher and the teacher referring a student.

8. Are performance objectives used in teaching?

   About half the teachers interviewed reported that they used performance objectives in their teaching. But after reviewing copies of their written objectives it seemed that most teachers confused performance objectives with behavioral objectives. In my approximation about 20% of the teachers really used performance objectives.

9. What methods of evaluation and reporting do you use?

   All schools I visited except one reported by the A-F method. The one exception was Will County Area Vocational Center which used Competency sheets.

SUMMARY OF EDUCATIONAL DATA (continued)

10. Do you use wall charts as teaching aids?

    About 75% used some type of chart or illustration in their classroom.

11. Do you do your own in-district printing?

    All but two schools reporting do some type of production printing. This varies greatly from whole district printing to only departmental or school printing.

12. How many months a year does your print shop run?

    12 months - 55%
    11 months - 5%
    10 months - 10%
    9 months - 30%

13. Is there anything unique about your graphic arts program?

    This answer supplied numerous replies. Some mentioned more than once were:

    1. Openness between teacher and student
    2. Well equipped laboratory
    3. Vocationally oriented

14. Is there any relationship between the graphic arts program and the other departments?

    1. Drafting - learning layout skills
    2. Business - secretaries using typesetting machines
    3. Art - designs for production jobs
    4. English - proofreading
    5. Journalism - writing school paper
    6. Photography - shooting photos for school paper

SUMMARY OF INDUSTRY DATA

1. What kind of work does your company presently do?

   Offset - 5
   Offset and letterpress - 3
   In-plant - 4
   Newspaper - 3
   Color separation - 2
   Publishing - 1
   Lithography - 1

2. What are the different jobs that are involved in your company?

   There are too many different jobs available in the establishments I visited to list them all. But most of the jobs had something to do with offset printing.

3. What competencies or skills do these jobs require?

   Although most people that I talked to did give specific skills that they would like to see the student learn, the most frequently used answer to skills needed were common sense, good attitude, neatness, use of tools, accuracy, English ability and reading.

4. What are the starting salaries for different positions in your company?

   About 90% of the companies reporting start a student right out of high school at $2.75 - $3.00 an hour. Increase in salary depends on attitude and merit on the job, with to dollar going to the people who work their way up the company ladder.

5. Is there room for advancement in your company?

   The larger companies visited all reported that promotion within the company is very possible. But in the small job shops no promotion was found because there was nowhere to be promoted. Usually a person took a job and stayed there until he was ready to go to another company.

6. What direction is the printing industry going?

   Most frequently used answers were:

   1. Computer technology
   2. Lasers
   3. Movement of companies to the suburbs
   4. Electronics
   5. Scanners
   6. Increasing in-plant operations

7. Would you recommend that young people go into business for themselves?

   About 90% of the people interviewed said no. Money is the prime factor here with little chance of succeeding because of the great amount of competition.

8. Does college graphic arts help prepare a person for work in your company?

   Depending on the training one received, most people interviewed felt college does not prepare a person to step right into a skilled position. Too often the student coming out of college demanded high salary for no proven job skills. Most people interviewed believe that the college person should start at the bottom like everyone else and work his way to the top. The one advantage reported was that the college person would be able to climb the company ladder faster than a person right out of high school.

RECOMMENDATIONS FOR FUTURE ACTIVITIES

1. A graphic arts laboratory must be set up to be used in conjunction with the objectives which were written for the Johnsburg High School graphic arts classes.

2. The curriculum guide will be field tested at Johnsburg High School using the completed graphic arts laboratory.

3. By field testing, the instructor must find any discrepancies in the lesson plans and make changes as needed.

4. Copies of the curriculum guide will be sent to selected people in the printing industry and in graphic arts education, for proofing and possible revisions.

5. A copy of the curriculum guide will be sent to Connye Barrow, project consultant, for grammatical changes.

6. The curriculum guide will be typeset and printed using the Johnsburg High School facility and the students who were taught from the curriculum guide.

LIST OF COMPETANCIES

GRAPHICS I

Draw Horizontal and Vertical Lines

Convert Standard Measurement to Points and Picas

Identify the Major Type Styles

Identify the Principles of Design

Make Thumbnail Sketches

Make a Rough Layout

Make a Comprehensive Layout

Hand Draw Copy

Hand Set Type and Make a Repro Proof

Clean Proof Press

Set Adhesive Type

Set Up and Operate Strike-On Typesetter

Set Up and Operate the Photo Typesetter

Set Up and Operate Photo Headliner

Process Photo Typesetting Paper

Read and Use Proofreading Symbols

Letterspace Display Type

Determine Which Colors Will Photograph on a Paste-up

Wax Prepared Copy

Make a Tissue Overlay

Scaling Reductions and Enlargements

Make a Single Color Paste-up

Make a Multi-color Paste-up in Register

Rule Lines with Pen and Ink

Mix Working Chemical Solutions

Clean Camera Copyboard

Set Camera Tapes

GRAPHICS I (continued)

Make a Line Negative

Make a Contact Film Positive

Make a Contact Paper Positive

Make a Duplicate Negative or Positive

Make a PMT Positive

Make a 2-Color Posterization

Opaque Negatives

Rule Lines by Scratching on Film

Draw Dimensions on a Masking Sheet

Strip a Single Color Job

Strip Two Colors from One Negative

Strip a Multi-Color Job in Register

Strip in Screen Tints

Make a Direct Image Plate

Make an Electrostatic Plate

Clean Platemaker Glass

Determine Exposure for Presensitized Plate

Make an Additive Plate

Make a Subtractive Plate

Clean and Preserve Offset Plate

Make a Metal Scotchcal Label

Make a Silverprint (Brownline) Proof

Make a Color-Key Proof

Set Feeder System

Set Conveyor Board and Sheet Controls

Set Delivery System

Install an Offset Plate

GRAPHICS I (continued)

Maintain Ink and Water Balance

Feed and Deliver Paper

Print fram a Direct-Image Plate

Print from an Electrostatic Plate

Print a Single Color Job

Print a Multi-Color Job in Register

Make Image Adjustments

Troubleshoot Press Problems

Clean Offset Plate

Clean Offset Press

Remove Glaze from Ink Rollers

Identify Paper

Test Paper Grain

Cut Paper

Make a Side Stitch

Jog Paper

Pad Paper

Make a Single Paper Fold

GRAPHICS II

Estimate the Cost of a Production Job

Read a Job Ticket

Copyfit Body Type

Copyfit Display Type

Crop a Photograph

Reverse Copy

Make a Line and Halftone Paste-up

GRAPHICS II (continued)

Paste Up an Eight Page Booklet

Paste Up Borders

Mix Stock Chemical Solutions

Clean Camera Lens

Position Camera Lamps

Reproduce Copy with Different Line Weight

Reduce or Enlarge a Line Negative

Hold or Drop Color

Process Panchromatic Film

Make a Spread or Choke

Calibrate Halftone Computer

Determine Halftone Exposure

Make a Halftone Negative

Make a PMT Paper Halftone

Clean Diffusion Transfer Processor

Make a Two-Color Duotone

Rescreen Printed Halftones

Make a Pleasing Color Separation

Make a Job Dummy for Eight-Page Booklet

Square a Light Table

Strip Butted Halftones

Strip Work and Turn

Strip Work and Tumble

Strip Step and Repeat

Strip a Two Color Duotone

Strip in Quality Control Devices

Outline Halftone

GRAPHICS II (continued)

Make a Step and Repeat Plate

Make Dampening Form Roller-to-Plate Adjustment

Make Ink Form Roller-to-Plate Adjustment

Make Plate-to-Blanket Adjustment

Make Impression Adjustment (Squeeze Test)

Mix Fountain Solution

Mix Ink

Print a Two-Color Duotone

Print Reverses or Solids

Print Two Sides from One Plate

Replace Blanket

Replace Dampening Cover

Lubricate the Press

Make a "Dutch" Paper Cut

Replace Paper Cutter Blade

Gather Paper

Drill Holes

Make an Accordian Fold

Make Two Right Angle Folds

Make a Saddle Stitch

Trim an Eight-Page Booklet

Score or Perforate on the Offset Press

Wrap a Stack of Paper

GRAPHICS 1

LESSON PLANS

TASK: Draw Horizontal and Vertical Lines

PERFORMANCE OBJECTIVE: Given the necessary tools, the student must layout horizontal and vertical lines that are both straight and accurate.

TOOLS AND MATERIALS:

Light table	White paper
T-square	Pencil
Triangle	Masking Tape

STUDENT ACTION:

Student squares paper to T-square.
Student keeps T-square flush to light table.
Student keeps triangle flush to T-square.
Student draws horizontal and vertical lines at ¼" intervals.

PERFORMANCE CHECK: Instructor observes the student's work to determine if the tools are used properly and the lines are drawn accurately.
Check is made to see if horizontal and vertical lines are parallel to each other.

TASK: Convert Standard Measurement to Points and Picas

PERFORMANCE OBJECTIVE: Given standard inch measurement, the student must convert them to the printers measurement of points and picas.

TOOLS AND MATERIALS:

Paper

Pencil

Line Gauge

STUDENT ACTION: Student measures given lines in points and picas. Student converts standard inch measurement to points and picas.

PERFORMANCE CHECK: Instructor observes the student's work to determine if the student correctly measures given line length and correctly changes inches to points and picas.
If necessary, re-assign the task or a similar task and closely supervise the work.

TASK:	Identify the Major Type Styles
PERFORMANCE OBJECTIVE:	Given a type specimen book, the student must classify each type face into its major type style with no less than 90% accuracy.
TOOLS AND MATERIALS:	Type specimen book
STUDENT ACTION:	Student identifies major type styles when looking through a type specimen book.
PERFORMANCE CHECK:	The instructor tests the student to determine if the student correctly identifies sample type faces.

TASK:	Identify the Principles of Design
PERFORMANCE OBJECTIVE:	Given samples of different magazine advertisements, the student must identify the principles of design that are incorporated in the advertisement.
TOOLS AND MATERIALS:	Sample advertisements Scissors White Paper Transparent tape
STUDENT ACTION:	The student recognizes the principles of design in a printed advertisement. The student uses the principles of design in designing his/her own advertisements.
PERFORMANCE CHECK:	Instructor tests the student's knowledge with a random sampling of printed advertisements. When necessary, determine the student's weakness and re-assign samples of printed advertisements.

TASK:	Make Thumbnail Sketches
PERFORMANCE OBJECTIVE:	Given a basic design idea, the student must make thumbnail sketches to a size specified by the instructor.
TOOLS AND MATERIALS:	Layout Paper Pencil Line Gauge
STUDENT ACTION:	The student uses the principles of design to pursue a basic design idea. The student makes six thumbnail sketches that are small and represent a basic design idea.
PERFORMANCE CHECK:	Instructor observes the work of the student to determine if the student correctly uses the principles of design. From observation, determine errors which were made and re-assign the task. Make suggestions and give individual assistance for making a design.

TASK: Make a Rough Layout

PERFORMANCE OBJECTIVE: Given six thumbnail sketches, the student must make a rough layout the full size of the real job.

TOOLS AND MATERIALS:

T-square	Masking tape
Triangle	Pencil
Layout paper	Line Gauge

STUDENT ACTION: The student uses the six thumbnail sketches to make a rough layout.

The student makes a rough layout the same size of the actual job giving an idea of the type to be used and the illustrations to be used.

PERFORMANCE CHECK: Instructor observes the student's work to determine if he meets the objective.

From observation, determine errors which were made by the student.

Provide corrective suggestions and give individual assistance for making the layout.

TASK: Make a Comprehensive Layout

PERFORMANCE OBJECTIVE: Given a rough layout, the student must make a comprehensive layout, representing the final job as closely as possible.

TOOLS AND MATERIALS:

T-square	Colored pencils
Triangle	Line gauge
Layout paper	Type specimen book
Masking tape	

STUDENT ACTION: The student uses the rough layout to make a comprehensive layout.

The student makes a comprehensive layout to look as close to the final printed product as possible.

PERFORMANCE CHECK: Instructor observes the student's work to determine if he meets the objective.

From observation, determine errors which were made by the student.

Provide corrective suggestions and give individual assistance for making the layout.

TASK:	Hand Draw Copy
PERFORMANCE OBJECTIVE:	Given the necessary tools, the student must produce copy by hand drawing that is neat and camera ready.
TOOLS AND MATERIALS:	T-square Triangle Direct-image plate Masking tape Pencils (or other drawing devices)
STUDENT ACTION:	The student makes hand drawn copy on a direct-image plate.
PERFORMANCE CHECK:	Instructor observes the student's work to determine if the copy is camera ready. Check is made for fingerprints on the image area.
NOTE:	Care is taken to keep equipment and hands clean during drawing operations.

TASK: Hand Set Type and Make a Repro Proof

PERFORMANCE OBJECTIVE: Given the necessary tools, the student must perform hand typesetting operations and pull a clean reproduction proof of the type.

TOOLS AND MATERIALS:

Type case	Repro proof press
Composing stick	Repro paper
Galley	Ink
String	

STUDENT ACTION: The student correctly uses typesetting tools.
The student sets hot type lettering and transfers it to a galley.
The student inks the proof press and pulls a clean reproduction proof.

PERFORMANCE CHECK: Instructor observes the student's performance to determine if the student has correctly set type and pulled a clean repro proof.
Check is made for proper use of equipment.
If there is an error, provide the student with corrective suggestions.

NOTE: Care is taken not to smash or damage the type faces. Damaged type can cause poor reproduction quality.

TASK:	Clean Proof Press
PERFORMANCE OBJECTIVE:	Given an inked proof press, the student must clean a proof press to the instructor's satisfaction.
TOOLS AND MATERIALS:	Solvent Shop rag Paper towels
STUDENT ACTION:	The student cleans the proof press by hand or with a clean-up attachment. The student wipes off excess ink and solvent with a clean shop rag.
PERFORMANCE CHECK:	Instructor observes the student's performance to determine if the student thoroughly cleaned proof press. When necessary, have the student review the procedures for cleaning a proof press and complete the task.

TASK: Set Adhesive Type

PERFORMANCE OBJECTIVE: Given display matter to be set, the student must set adhesive lettering that is straight and letterspaced properly.

TOOLS AND MATERIALS:

T-square	Blue pencil
Layout paper	Exacto knife
Masking tape	Burnisher (roller)

STUDENT ACTION: The student sets adhesive lettering on a straight line that is letterspaced properly.
The student burnishes the type.

PERFORMANCE CHECK: Instructor observes the student's work to determine if the student has accurately set and spaced adhesive type. If there is an error, show the student the error and have him perform the task again.

TASK:	Set up and Operate Strike-on Typesetter
PERFORMANCE OBJECTIVE:	Given text matter to be set, the student must set up the strike-on typesetter and perform typesetting operations.
TOOLS AND MATERIALS:	Strike-on typesetter Dull white paper Correcting tape White opaque
STUDENT ACTION:	The student sets up the strike-on typesetter for line length, leading and proper margining. The student sets flush left, flush right, centered and justified lines. The student makes corrections for mistakes.
PERFORMANCE CHECK:	Instructor asks the student to perform typesetting functions of flush left, flush right, centered, and justified lines. When necessary, provide individual assistance and allow time for the student to practice. Re-assign the task.

TASK:	Set up and Operate the Photo Typesetter
PERFORMANCE OBJECTIVE:	Given text matter to be set, the student must set up the photo typesetter and perform typesetting operations.
TOOLS AND MATERIALS:	Photo typesetter with paper Font strips/discs
STUDENT ACTION:	The student installs type font strip/disc. The student programs the photo typesetter for line length, leading, type size, etc. The student learns the function of each key. The student sets flush left, flush right, centered and justified lines. The student makes corrections for mistakes.
PERFORMANCE CHECK:	Instructor asks the student to perform typesetting functions of flush left, flush right, centered, and justified lines. When necessary, provide individual assistance and allow time for the student to practice. Re-assign the task.

TASK:	Set up and Operate Photo Headliner
PERFORMANCE OBJECTIVE:	Given display matter to set, the student must set up and operate the photo headliner.
TOOLS AND MATERIALS:	Photo headliner with paper Font strips/discs
STUDENT ACTION:	The student installs type font strips/discs. The student programs the photo headliner for line length, leading, type size, etc. The student learns the function of each key. The student sets display type. The student makes corrections for mistakes.
PERFROMANCE CHECK:	The instructor observes the student's performance to determine if he meets the objective. If there is error, show the student the error and have him perform the task again.

TASK:	Process Photo Typesetting Paper
PERFORMANCE OBJECTIVE:	Given an exposed photo cassette, the student must process the photo paper to the manufacturer's recommendation.
TOOLS AND MATERIALS:	Photo typesetting paper Photo processor
STUDENT ACTION:	The student develops the photo typesetting paper in the photo processor. The student makes periodic checks (to the manufacturer's recommendations) of the processor's chemistry. The student changes the chemistry and cleans the photo processor.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has processed the photo paper to the proper density. If quality of copy is poor, have the student check the chemistry (change if necessary) and perform the task again.
NOTE:	It is a good idea to put the paper into a fixing solution after processor development. This will assure the black and white copy of not yellowing over a long period of time.

TASK:	Read and Use Proofreading Symbols
PERFORMANCE OBJECTIVE:	Given type matter, the student must read the material and mark with proofreader's symbols, any corrections which need to be made.
TOOLS AND MATERIALS:	Type matter Pen or pencil List of correction symbols.
STUDENT ACTION:	The student reads the type matter and identifies any mistakes. The student marks the mistakes with proofreader's symbols.
PERFORMANCE CHECK:	The instructor tests the student's knowledge of proofreading symbols by providing the student with a sheet of type matter containing errors and having the student identify the errors with proofreading symbols. When necessary, allow the student study time, and retest.

TASK:	Letterspace Display Type
PERFORMANCE OBJECTIVE:	Given display type, the student must letterspace the word or line and create a visually pleasing effect.
TOOLS AND MATERIALS:	Display copy Line gauge Scissors Waxer/Rubber cement
STUDENT ACTION:	The student letterspaces type to create a special effect.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has properly spaced the letters. When necessary, determine weaknesses of the student and provide corrective suggestions.

TASK: Determine Which Colors Will Photograph on a Paste-up

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must determine which colors will reproduce on a paste-up when mechanically photographed.

TOOLS AND MATERIALS:

T-square	Line Gauge
Triangle	Different types of copy
White posterboard	Colored pens and pencils
Masking tape	Waxer

STUDENT ACTION: The student makes a paste-up with various types of copy matter.
The student determines which colors will drop out when reproduced.
The student determines what will happen to line, screen halftone, screened colored halftone, and continuous tone copy when reproduced.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has correctly made a paste-up using various combinations of copy and colors.
Use of tools and cleanliness are important checks.
The instructor has the student shoot a line negative of the paste-up and make a written evaluation of what copy will photograph and what will not.

TASK:	Wax Prepared Copy
PERFORMANCE OBJECTIVE:	Given a piece of copy, the student must wax the back of the copy and prepare it for paste-up.
TOOLS AND MATERIALS:	Piece of copy Waxer Scissors
STUDENT ACTION:	The student sets up the waxing machine. The student waxes different sizes of copy.
PERFORMANCE CHECK:	The instructor observes the student's performance in setting up the waxing machine and putting on the wax coating. The instructor should provide corrective suggestions if the student is having problems.

TASK:	Make a Tissue Overlay
PERFORMANCE OBJECTIVE:	Given a paste-up, the student must make a tissue overlay that will be neat and straight, and will protect the paste-up from getting dirty.
TOOLS AND MATERIALS:	Paste-up Tissue paper Masking tape Exacto knife
STUDENT ACTION:	The student makes a tissue overlay for the protection of the paste-up. The student makes notations on the tissue overlay for the placement of certain halftones, scale of reproduction, percentage of tint screen, etc.
PERFORMANCE CHECK:	The student's performance is observed to determine if the student correctly places a tissue overlay over a finished paste-up.

TASK: Scaling Reductions and Enlargements

PERFORMANCE OBJECTIVE: Given a piece of copy, the student must scale a reduction or an enlargement to a proper size, using at least two different methods.

TOOLS AND MATERIALS:

T-square	Line gauge
Triangle	Pencil
Paper	Copy to be scaled
Masking tape	Proportional wheel

STUDENT ACTION: The student scales reductions or enlargements by the diagonal line method.

The student scales reductions or enlargements by the proportional wheel method.

The student scales copy to properly fit a given lay-out.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student properly scales copy.

When necessary, review the material with the individual student and re-assign the task.

TASK: Make a Single Color Paste-up

PERFORMANCE OBJECTIVE: Given type matter and a comprehensive layout, the student must make a single color paste-up that is camera ready.

TOOLS AND MATERIALS:

T-square	Blue pencil	White opaque
Triangle	Black ball point	
White Posterboard	Artwork	
Masking tape	Waxer	
Line gauge	Exacto knife	

STUDENT ACTION: The student marks guidelines and margins on the paste-up with a light blue non-reproducing pencil.
The student marks trims, scores, perforations, etc. on the paste-up with a black ball point pen.
The student evenly and accurately secures all type matter and illustrations on the paste-up.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student has accurately drawn guidelines and fastened any type matter or illustrations. From observation, determine any errors which were made and provide the student with corrective suggestions.

NOTE: Accuracy and neatness are a must when doing a paste-up. This should be stressed when giving the demonstration because the paste-up is a representation of what the job will be.

TASK: Make a Multi-color Paste-up in Register

PERFORMANCE OBJECTIVE: Given type matter and a comprehensive layout, the student must make a multi-color paste-up in register that is camera ready.

TOOLS AND MATERIALS:

T-square	Blue pencil	Register marks
Triangle	Black ball point	Clear Acetate
White posterboard	Artwork	White opaque
Masking tape	Waxer	
Line gauge	Exacto knife	

STUDENT ACTION:

The student secures all type matter and illustrations for the first color on the posterboard.

The student attaches register marks to the non-image area of the posterboard.

The student secures all type matter and illustrations for the second and third colors on acetate overlays.

The student attaches register marks to the non-image area of the acetate overlays.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the student has accurately secured the type matter and illustrations for each color.

Check should be made that each color is in perfect register.

From observation, determine any errors which were made and provide the student with corrective suggestions.

TASK: Rule Lines with Pen and Ink

PERFORMANCE OBJECTIVE: Given black and white artwork, the student must rule lines with pen and ink that are straight and accurate.

TOOLS AND MATERIALS:

T-square	Masking tape
Triangle	Ruling pen
Paste-up/typeset copy	Black india ink

STUDENT ACTION:

The student sets type in normal manner.

The student rules lines with pen and ink that are straight and of matched weight.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student correctly draws straight lines with a pen and ink ruling device.

Check is made to determine if the lines are of equal weight.

When necessary, show the student his errors, allow time for practice, and re-assign the task.

NOTE:

Care must be taken to hold the ruling pen at a 90° angle and guide the pen at this angle across the straightedge. Lesser angles can cause the ink to flow under the straightedge, resulting in blotches of ink on the copy.

TASK:	Mix Working Chemical Solutions
PERFORMANCE OBJECTIVE:	Given stock chemistry, the student must measure the correct amounts of solution, and mix a working solution for the sink that will perform to the manufacturers recommendations
TOOLS AND MATERIALS:	Stock chemistry Darkroom graduate Thermometer Trays
STUDENT ACTION:	The student mixes working litho developer from stock A + B solution. The student pours working stop bath and fixer into trays. The student maintains the chemistry at 68°.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has mixed the working chemical solution to the manufacturers recommendations. Check is made to determine of the chemicals are kept at a constant 68°.
NOTE:	Caution should be taken when mixing chemistry to ALWAYS ADD CHEMICALS TO WATER.

TASK:	Clean Camera Copyboard
PERFORMANCE OBJECTIVE:	Given a camera's copyboard, the student must clean and inspect both the front and the back of the glass, leaving no particles which could be photographed.
TOOLS AND MATERIALS:	Glass cleaner Clean shop rag Razor blade
STUDENT ACTION:	The student scrapes both sides of the camera's copyboard glass with a razor blade to remove foreign particles. The student cleans both sides of the camera's copyboard with glass cleaner and a clean shop rag.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has thoroughly cleaned both sides of the camera's copyboard.

TASK:	Set Camera Tapes
PERFORMANCE OBJECTIVE:	Given a process camera, the student must set the camera tapes for correct lensboard and copyboard positioning and focus the image on the ground glass.
TOOLS AND MATERIALS:	Process camera Piece of copy
STUDENT ACTION:	The student centers copy in the copyboard. The student adjusts the lensboard and copyboard tapes for same size reproduction. The student adjusts the lensboard and copyboard tapes for reductions or enlargements. The student turns on the camera lights and checks copy positioning on the ground glass.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine of the student has focused the image on the ground glass to the desired size.

TASK:	Make a Line Negative
PERFORMANCE OBJECTIVE:	Given a piece of copy, the student must expose a piece of line film and process it to the manufactureres recommendation.
TOOLS AND MATERIALS:	Process camera Line copy 12-step reflective gray scale Line film Working chemistry
STUDENT ACTION:	The student handles the film by the edges, leaving no unnecessary fingerprints on the emulsion of the film. The student exposes line film (emulsion toward the lens) on the process camera. The student processes the film to meet the manufacturers recommendation.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has made a line negative to meet the manufacturers recommendation. Check is made for handling of film. If there is an error, show the student the correct procedure and re-assign task.
NOTE:	Make sure the lens cap is removed from the lens before the exposure is made.

TASK: Make a Contact Film Positive

PERFORMANCE OBJECTIVE: Given a line negative, the student must make a contact film positive and process it to the manufacturers recommendation.

TOOLS AND MATERIALS:

Vacuum contact frame

Point source light

Line negative

Line film

Working chemistry

STUDENT ACTION: The student exposes line film (emulsion to emulsion with original negative) in the vacuum contact frame to make a contact film positive.

The student processes the film to meet the manufacturers recommendation.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has made a contact film positive to meet the manufacturers recommendation.

If there is an error, show the student the correct procedure and re-assign the task.

NOTE: Make sure the proper amount of pressure is reached in the vacuum contact frame before making the exposure. Improper pressure can cause uneven contact, resulting in an unsatisfactory film positive.

TASK:	Make a Contact Paper Positive
PERFORMANCE OBJECTIVE:	Given a line negative, the student must make a contact paper positive and process it to the manufacturers recommendation.
TOOLS AND MATERIALS:	Vacuum contact frame Point source light Negative Photographic litho paper Working chemistry
STUDENT ACTION:	The student exposes litho paper (emulsion to emulsion with original negative) in the vacuum contact frame to make a contact paper positive. The student processes the film to meet the manufacturers recommendation.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has made a contact paper positive to meet the manufacturers recommendation. If there is an error, show the student the correct procedure and re-assign the task.

TASK:	Make a Duplicate Negative or Positive
PERFORMANCE OBJECTIVE:	Given a negative or a positive, the student must make a duplicate negative or positive and process it to the manufacturers recommendation.
TOOLS AND MATERIALS:	Vacuum contact frame Point source light Negative or positive Duplicating film Working chemistry
STUDENT ACTION:	The student exposes duplicating film (emulsion to emulsion with original negative or positive) in the vacuum contact frame to make a duplicate negative or positive. The student processes the film to meet the manufacturers recommendation.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has made a duplicate negative or positive to meet the manufacturers recommendation. If there is an error, show the student the correct procedure and re-assign the task.

TASK:	Make a PMT Positive
PERFORMANCE OBJECTIVE:	Given a piece of clean black and white copy, the student must copy the original (reduction or enlargement) and process it in the diffusion transfer process to the manufacturers recommendation.
TOOLS AND MATERIALS:	Process camera Line copy PMT negative paper PMT receiver paper Diffusion transfer processor
STUDENT ACTION:	The student exposes PMT negative paper (emulsion toward the lens) in the process camera to make a PMT positive. The student processes the negative paper (emulsion to emulsion) with the receiver paper in the diffusion transfer processor.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has met the objective. If there is an error, show the student the correct procedure and re-assign the task.

TASK: Make a 2-Color Posterization

PERFORMANCE OBJECTIVE: Given a black and white continuous tone photo, the student must make a photographic posterization and process it to the instructor's satisfaction.

TOOLS AND MATERIALS:

Process camera

Continuous tone photo

12-step reflective gray scale

Line film

Working chemistry

STUDENT ACTION: The student exposes two sheets of line film (from the same continuous tone photo) on the process camera to make a 2-color posterization.

The student processes the primary negative to step 4 on the gray scale and the secondary negative to step 2 on the gray scale.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has properly exposed and developed two negatives.

Check is made to see that one negative is developed to step 2 on the gray scale and the other negative is developed to step 4 on the gray scale.

If there is an error, show the student the correct procedure and re-assign the task.

TASK:	Opaque Negatives
PERFORMANCE OBJECTIVE:	Given a line negative, the student must opaque all pinholes and scratches permitting no light to pass through the non-image area.
TOOLS AND MATERIALS:	Line negative Opaque Opaque brush
STUDENT ACTION:	The student determines what side of film to opaque. The student mixes opaque and covers all pinholes and scratches in the non-image area which could expose light to the sensitized plate.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has correctly covered all pinholes or scratches in the non-image area with opaque. If the student has problems mixing the opaque to the correct opacity, show the student the correct way.

TASK: Rule Lines by Scratching on Film

PERFORMANCE OBJECTIVE: Given a line negative, the student must rule lines on the emulsion of the film that are straight and accurate.

TOOLS AND MATERIALS:

T-square

Triangle

Line Negative

Transparent tape

Scriber (or film cutter)

STUDENT ACTION: The student rules lines that are straight and of matched weight by scratching on the emulsion of the film.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student correctly scratches straight lines on the emulsion of the film with film cutting tools.

Check is made to see if lines are of equal weight.

When necessary, show the student his errors, allow time for practice and re-assign task.

TASK: Draw Dimensions on a Masking Sheet

PERFORMANCE OBJECTIVE: Given a layout, the student must draw the dimensions of the job on the masking sheet to meet the press's specifications.

TOOLS AND MATERIALS:

Light table	Line gauge
T-square	Transparent tape
Triangle	Pen or pencil
Masking sheet	

STUDENT ACTION: The student draws the job size dimensions on a masking sheet to meet the specifications of the press being used.

The student lays out the gripper edge to the specifications of the press being used.

The student lays out margins, bleeds, etc.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student correctly layed out dimensions on a masking sheet.

Check is made for position in relation to the press being used and for the gripper margin.

If there is an error, show the student the correct procedure, and re-assign the task.

TASK: Strip a Single Color Job

PERFORMANCE OBJECTIVE: Given a masking sheet and a line negative, the student must strip the negative to the specifications of the press being used.

TOOLS AND MATERIALS:

Light table	Line gauge	Red litho tape
T-square	Pen or pencil	Transparent tape
Triangle	Scissors	Exacto knife
Masking sheet	Negative	

STUDENT ACTION: The student aligns the negative to the job dimensions on the masking sheet, wrong reading emulsion up.

The student securely tapes the negative to the masking sheet.

The student turns the masking sheet over and cuts windows around the image to let light pass through.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the negative is aligned correctly in relationship to the masking sheet dimensions.

Check is made to see that negative is securely taped to the masking sheet.

When necessary, show the student any errors which were made.

Have student correct his own errors.

NOTE: Make sure the image is not in the gripper margin.

TASK: Strip Two Colors From One Negative

PERFORMANCE OBJECTIVE: Given one negative, the student must strip a two color job from one negative and one master masking sheet to meet the specifications of the press being used.

TOOLS AND MATERIALS:

Light table	¼" register pin	Red litho tape
T-square	Line gauge	Transparent tape
Triangle	Pen or pencil	Exacto knife
Masking sheets	Scissors	
¼" punch	Negative	

STUDENT ACTION:

The student strips the negative, wrong reading emulsion up to masking sheet A.

The student registers a blank masking sheet to masking sheet A and cuts windows for the copy to be printed in the first color. Mark this masking sheet B.

The student registers another blank masking sheet to masking sheet A and cuts windows for the copy to be printed in the second color. Mark this masking sheet C.

The student registers A + B for the first color.

The student registers A + C for the second color.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the student meets the objective.

If there is an error, point out the student's mistake and show the student the correct procedure.

Have the student perform the task again.

TASK: Strip a Multi-Color Job in Register

PERFORMANCE OBJECTIVE: Given two or more negatives and as many masking sheets the student must strip a mulit-color job in register to meet the specifications of the press being used.

TOOLS AND MATERIALS:

Light table	¼" register pins	Red Litho tape
T-square	Line gauge	Transparent tape
Triangle	Pen or pencil	Exacto knife
Masking sheet	Scissors	
¼" punch	Negatives	

STUDENT ACTION:

The student punches in register two or more masking sheets.

The student aligns the negative to the job dimensions on a masking sheet for the first color.

The student aligns the negative of the second color on a masking sheet in register with the first color masking sheet.

The student aligns the negative of the third color on a masking sheet in register with the second color masking sheet.

The student cuts windows for the copy to be printed on each masking sheet.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the negatives are aligned according to the press being used.

Check is made to see if all masking sheets are in perfect register.

PERFORMANCE CHECK: (continued)

When necessary, show the student any errors which were made.

Have the student correct his own errors.

TASK: Strip in Screen Tints

PERFORMANCE OBJECTIVE: Given a line negative and two masking sheets, the student must strip the negative on the first masking sheet and add color by stripping screen tints on the second masking sheet.

TOOLS AND MATERIALS:

Light table	¼" register pins	Red litho tape
T-square	Line gauge	Transparent tape
Triangle	Pen or pencil	Exacto knife
Masking sheet	Scissors	Screen tint
¼" punch	Negative	

STUDENT ACTION:

The student punches two masking sheets in register.
The student strips the line negative, wrong reading emulsion up to the first masking sheet.
The student cuts an opening on the second masking sheet (in register with the first) the size of the screen tint wanted.
The student attaches the screen tint to the second masking sheet.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the objective was met.
Check is made to see if all masking sheets are in perfect register.
When necessary, show the student any errors which were made.
Have the student correct his own errors.

NOTE: In lieu of cutting the opening on the masking sheet, the student may cut the opening on rubilith and attach it in register to the second masking sheet.

TASK: Make a Direct Image Plate

PERFORMANCE OBJECTIVE: Given plate material and the necessary tools, the student must draw or type an image on to a direct-image plate.

TOOLS AND MATERIALS:
Direct-image plate
Reproducing tools
- typewriter
- pencil
- pen
- litho crayon

STUDENT ACTION:
The student draws an image on to the direct-image plate with pencil or ink.
The student types an image on to the direct-image plate with the strike-on typesetter.

PERFORMANCE CHECK:
The instructor observes the student's performance to determine if the student has drawn or typed on to the image area of the plate.
From observation, determine errors which were made and re-assign the task.

NOTE: Care must be taken to keep fingerprints off the image area of the plate. Any greasy substance that touches the plate will reproduce on to the paper.

TASK:	**Make an Electrostatic Plate**
PERFORMANCE OBJECTIVE:	**Given camera ready copy, the student must make an electrostatic plate by exposing it to the manufacturers recommendation.**
TOOLS AND MATERIALS:	**Electrostatic platemaker** **Electrostatic plate material** **Camera ready copy**
STUDENT ACTION:	**The student cleans the camera ready copy to remove any tape, wax, rubber cement, etc., that could be reproduced.** **The student exposes camera ready copy in electrostatic platemaker.** **The student prepares the plate for the press.**
PERFORMANCE CHECK:	**The instructor observes the student's performance to determine if the student correctly exposes the copy in the electrostatic platemaker.** **When necessary, show the student the correct procedure and re-assign the task.**

TASK:	Clean Platemaker Glass
PERFORMANCE OBJECTIVE:	Given a platemaker, the student must clean and inspect both the front and the back glass so no particles are left which could be exposed.
TOOLS AND MATERIALS:	Glass cleaner Shop rag Razor blade
STUDENT ACTION:	The student scrapes both sides of the platemaker's glass with a razor blade to remove any foreign particles. The student cleans both sides of the platemaker's glass with glass cleaner and a clean shop rag.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has thoroughly cleaned both sides of the platemaker's glass.

TASK:	Determine Exposure for Presensitized Plate
PERFORMANCE OBJECTIVE:	Given the necessary tools, the student must determine the exposure of an offset plate to the correct gray scale step.
TOOLS AND MATERIALS:	Platemaker Masking sheets Presensitized plate Platemaking chemistry 21-step transparent gray scale Developing pads
STUDENT ACTION:	The student places a presensitized plate (emulsion up) in the platemaker. The student places a 21-step transparent gray scale on the plate and makes test exposures at various intervals. The student develops the plate to the manufacturers recommendations.
PERFORMANCE CHECK:	The instructor asks the student to make exposures on a presensitized plate at different time intervals and develop the plate. Check is made for plate developed to step 6 on the gray scale.

TASK: Make an Additive Plate

PERFORMANCE OBJECTIVE: Given a stripped masking sheet, the student must make an additive plate by exposing and developing the plate to the manufacturers recommendation.

TOOLS AND MATERIALS:

- Platemaker
- Presensitized additive plate
- Stripped masking sheet
- 21 step transparent gray scale
- Platemaking chemistry
- Developing pads

STUDENT ACTION: The student places the presensitized additive plate and a masking sheet (emulsion to emulsion) in the platemaker.
The student makes the proper exposure.
The student develops the plate to the manufacturers recommendation.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student has properly exposed and developed an additive plate.
Check is made of the plate surface, and if necessary, instructor offers suggestions for correctly completing the task.

TASK: Make a Subtractive Plate

PERFORMANCE OBJECTIVE: Given a stripped masking sheet, the student must make a subtractive plate by exposing and developing the plate to the manufacturers recommendation.

TOOLS AND MATERIALS:

- Platemaker
- Presensitized subtractive plate
- Stripped masking sheet
- 21-step transparent gray scale
- Platemaking chemistry
- Developing pads

STUDENT ACTION:

The student places a presensitized subtractive plate and a masking sheet (emulsion to emulsion) on the platemaker.

The student makes the proper exposure.

The student develops the plate to the manufacturers recommendation.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student has properly exposed and developed the subtractive plate.

Check is made of the plate surface, and if necessary the instructor offers suggestions for correctly completing the task.

TASK:	Clean and Preserve Offset Plate
PERFORMANCE OBJECTIVE:	Given a developed plate, the student must clean and preserve the plate for protection till further use.
TOOLS AND MATERIALS:	Freshly developed plate Gum arabic solution Sponge or pad
STUDENT ACTION:	The student wipes the plate surface clean with a damp sponge. The student covers the plate surface with gum arabic solution. The student wipes the plate dry with clean cheesecloth.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has properly cleaned and preserved the plate surface. If done incorrectly, show the student the right procedure.

TASK:	Make a Metal Scotchcal Label
PERFORMANCE OBJECTIVE:	Given a line negative, the student must expose the metal scotchcal and develop it to the manufacturers recommendation.
TOOLS AND MATERIALS:	Plate maker Line negative Scotchcal photosensitive metal label Scotchcal developer Scotchcal gloss
STUDENT ACTION:	The student places a negative and scotchcal photosensitive metal label materials (both emulsions down) in the platemaker. The student makes the proper exposure. The student develops the scotchcal to the manufacturers recommendation. The student applies scotchcal protective gloss coating.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has properly exposed and developed the scotchcal label. From observation, determine errors which were made and show the student the correct procedure for completing the task.

TASK:	**Make a Silverprint (Brownline) Proof**
PERFORMANCE OBJECTIVE:	Given a negative or positive, the student must make a silverprint proof by exposing and developing it to the manufacturers recommendation.
TOOLS AND MATERIALS:	Proofing material Platemaker Running water
STUDENT ACTION:	The student places a negative or positive and silverprint proofing materials (emulsion to emulsion) in the platemaker. The student makes the proper exposure. The student develops the silverprint proofing material to the manufacturers recommendation.
PERFORMANCE CHECK:	The instructor asks the student to make a proof of a negative by making a silverprint proof. From observation, determine errors which were made and offer the student suggestions for completing the task.

TASK: Make a Color-Key Proof

PERFORMANCE OBJECTIVE: Given a negative or positive, the student must make a color-key proof by exposing and developing it to the manufacturers recommendation.

TOOLS AND MATERIALS:

- Platemaker
- Color-key proofing material
- Negative or positive
- Color-key developer
- Developing pads
- Water
- Blotting paper

STUDENT ACTION: The student places a negative and color-key proofing material (both emulsions down) in the platemaker.
The student makes the proper exposure.
The student develops the color-key proofing material to the manufacturers recommendations.
The student drys the color-key proofing material with blotting paper.

PERFORMANCE CHECK: The instructor asks the student to make a color proof of a multi-color job by making a color-key.
From observation, determine errors which were made and offer the student suggestions for completing the task

TASK:	Set Feeder System
PERFORMANCE OBJECTIVE:	Given a lift of job stock, the student must set up the feeder system of the press and make necessary adjustments.
TOOLS AND MATERIALS:	Offset press Paper Screw driver
STUDENT ACTION:	The student sets a stack of paper on the feed table. The student adjusts the pile guides. The student adjusts the sheet separators. The student adjusts the suction feet. The student adjusts the air blast and vacuum. The student adjusts the pile height.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has set up the feeding system of the press correctly. Allow time for practice and provide suggestions. If there is a problem, show the student the correct procedure for completing the task.

TASK:	Set Conveyor Board and Sheet Controls
PERFORMANCE OBJECTIVE:	Given a sheet of job stock, the student must set up the conveyor board of the press and make necessary adjustments.
TOOLS AND MATERIALS:	Offset press Paper Screw driver
STUDENT ACTION:	The student places a sheet of paper on the conveyor board. The student adjusts the double sheet detector. The student adjusts the pull-out rollers. The student adjusts the side guide. The student adjusts the conveyor tapes and metal bands. The student adjusts the rider wheels.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has set up the conveyor board and sheet controls of the press correctly. Allow time for practice and provide suggestions. If there is a problem, show the student the correct procedure for completing the task.

TASK:	Set Delivery System
PERFORMANCE OBJECTIVE:	Given a sheet of job stock, the student must set up the delivery system of the press and make the necessary adjustments.
TOOLS AND MATERIALS:	Offset press Paper Screw driver
STUDENT ACTION:	The student feeds a piece of paper to the delivery table. The student adjusts the delivery tray. The student adjusts the jogger.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has set up the delivery system of the press correctly. Allow time for practice and provide suggestions. If there is a problem, show the student the correct procedure for completing the task.

TASK:	**Install an Offset Plate**
PERFORMANCE OBJECTIVE:	**Given an offset plate, the student must install the plate and position it so it is securely covering the plate cylinder.**
TOOLS AND MATERIALS:	**Offset press** **Offset plate**
STUDENT ACTION:	**The student anchors the lead edge of the plate to the plate cylinder.** **The student stretches and installs the trailing edge securely to the plate cylinder.**
PERFORMANCE CHECK:	**The instructor observes the student's performance to determine if the student can install an offset plate. If a problem arises, show the student the correct procedure.**

TASK:	Maintain Ink and Water Balance
PERFORMANCE OBJECTIVE:	Given offset ink and dampening solution, the student must achieve a correct ink and water balance that can be maintained through a normal press run.
TOOLS AND MATERIALS:	Offset press Dampening solution Offset ink Ink knife Offset plate Cotton pads
STUDENT ACTION:	The student sets up the dampening system of the press. The student sets up the ink system of the press. The student installs the plate. The student drops the dampening form rollers and adjusts the dampening flow. The student drops the ink form rollers and adjusts the ink flow.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student maintains an even ink and water balance on the press. Check is made by running a few sheets of paper through the press. If the press is out of balance, show the student the problem and provide suggestions to alleviate the problem.

TASK:	Feed and Deliver Paper
PERFORMANCE OBJECTIVE:	Given 100 sheets of paper, the student must set up the press and deliver the paper through the press.
TOOLS AND MATERIALS:	Offset press 100 sheets of 20 lb. bond 100 sheets of 110 lb. index
STUDENT ACTION:	The student sets up the press for feeding and delivering paper. The student feeds and delivers 100 sheets of 20 lb. bond paper through the press. The student feeds and delivers 100 sheets of 110 lb. index paper through the press.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student correctly feeds paper through an offset press. From observation, determine errors which were made and show the student the correct procedure. Have student repeat task until perfected.

TASK: Print from a Direct-Image Plate

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set up an offset press and print 50 copies from a direct-image plate to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Direct-image plate	Correction pencil
Fountain solution	55 sheets of 20 lb. bond	
Offset ink	Cotton pads	Blanket wash
Ink knife	Shop rags	

STUDENT ACTION: The student sets up the offset press with black ink.
The student installs the direct-image plate and prepares its surface.
The student prints 50 clean copies.

TASK: Print from an Electrostatic Plate

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set up an offset press and print 100 copies from an electrostatic plate to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	110 sheets of 20 lb. bond
Fountain solution	Cotton pads
Offset ink	Shop rags
Ink knife	Correction pencil
Electrostatic plate	Blanket wash

STUDENT ACTION:

The student sets up the press with black ink.

The student installs the electrostatic plate and prepares its surface.

The student prints 100 clean copies.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student can print 100 clean copies on an offset press from an electrostatic plate.

Check is made for proper and safe operation of the press.

Help is provided in areas of weakness until the task is completed.

TASK: Print a Single Color Job

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set up an offset press and print a single color job from a metal plate to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Metal plate	Blanket wash
Fountain solution	Paper	
Offset ink	Cotton pads	
Ink knife	Shop rags	

STUDENT ACTION:

The student sets up the press with colored ink.
The student installs the metal plate and prepares its surface.
The student makes the press run.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student properly sets up and prints a job on the offset press in a single color.
Check is made for proper and safe operation of press.
If there is error, provide the student with corrective suggestions and let him complete the task.

TASK: Print a Multi-Color Job in Register

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set up an offset press and print a multi-color job maintaining proper register to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Metal plates	12x magnifying glass
Fountain solution	Paper	Blanket wash
Offset inks	Cotton pads	
Ink knife	Shop rags	

STUDENT ACTION:

The studetn sets up the press with the first color ink.
The student installs the first color metal plate and prepares its surface.
The student makes the first color press run.
The student sets up the press with the second color ink.
The student instslls the second color metal plate and prepares the surface.
The student makes the second press run.
Etc.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student properly sets up and prints a multi-color job in register.
Check is made for proper and safe operation of the press.
If there is error, provide the student with corrective suggestions and assist him in completing the task.

NOTE: Before each run is made, the student should run ten sheets of paper through the press twice to see if the press is in register. If it is not in register, the student should check the set up and make the necessary adjustments.

TASK:	Make Image Adjustments
PERFORMANCE OBJECTIVE:	Given a press sheet with improper image placement, the student must make lateral and vertical image adjustments to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Offset press Press sheet
STUDENT ACTION:	The student runs a sheet of paper through the press and makes an impression. The student checks and measures the side to side placement of the image and makes a lateral adjustment. The student checks and measures the up and down placement of the image and makes a vertical adjustment.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student makes image adjustments to meet specifications. If there is a weakness, provide student with suggestions for completing the task.

TASK:	Troubleshoot Press Problems
PERFORMANCE OBJECTIVE:	Given a malfunctioning press, the student must identify the press problems and solve them to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Offset press manual Press sheet 12x magnifying glass
STUDENT ACTION:	The student checks a press sheet for any press problems (scumming, picking, out of balance, etc.). The student troubleshoots the problem and makes the necessary adjustments.
PERFORMANCE CHECK:	The instructor sets up a number of different problem situations on the press and has the student troubleshoot the problem. The instructor provides corrective suggestions if the student is having a problem finding the press problem.

TASK: Clean Offset Plate

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must clean a recently used offset plate and preserve the plate to meet the instructor's satisfaction.

TOOLS AND MATERIALS:
Cleaner concentrate
Cotton pads
Gum arabic solution
Clean cheesecloth

STUDENT ACTION:
The student removes the plate from the press.
The student applies a cleaning concentrate to the plate to remove the ink from the image and wipes the plate clean.
The student applies gum solution to the plate and spreads with a damp sponge.
The student wipes the plate with a clean cheesecloth.

PERFORMANCE CHECK: The instructor determines by observation if the student has properly cleaned and preserved an offset plate.

TASK: Clean Offset Press

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must clean and inspect a recently run offset press to meet the instructor's satisfaction.

TOOLS AND MATERIALS:
Cleanup mattes/cleanup attachment
Blanket wash
Shop rags
Cotton pads

STUDENT ACTION:
The student turns off the press and removes all paper.
The student cleans image from the blanket.
The student drains the dampening solution.
The student removes the ink and cleans the ink fountain.
The student attaches cleanup mattes or cleanup attachment and cleans ink rollers.
The student wipes rollers and surfaces clean with a solvent-damp shop rag.

PERFORMANCE CHECK:
The instructor observes the student's performance to determine if the student adequately cleans an offset press.
From observation, determine errors which were made and show the correct procedure for completing the task.

TASK:	Remove Glaze from Ink Rollers
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must remove glaze from the ink rollers to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	ff pumice Glaze remover Shop rags
STUDENT ACTION:	The student applies ff pumice to a solvent-damp shop rag and scrubs rollers to remove glaze. The student applies glaze remover to the ink rollers and wipes them clean.
PERFORMANCE CHECK:	The instructor determines from observation if the student has properly removed glaze from the ink rollers.

TASK:	Identify Paper
PERFORMANCE OBJECTIVE:	Given paper samples, the student must identify and label the paper with 80% accuracy.
TOOLS AND MATERIALS:	Paper samples Magnifying glass Pen or pencil Stitcher
STUDENT ACTION:	The student identifies paper and labels it by weight, name and size.
PERFORMANCE CHECK:	The instructor tests the student to determine if the student correctly identifies samples of paper.

TASK:	Test Paper Grain
PERFORMANCE OBJECTIVE:	Given a sheet of paper, the student must determine the paper grain by using at least two different test methods.
TOOLS AND MATERIALS:	Paper samples
STUDENT ACTION:	The student differentiates between long grain and short grain. The student determines paper grain by the tearing test. The student determines paper grain by the folding test. The student determines paper grain by the bending test. The student determines paper grain by the wetting test.
PERFORMANCE CHECK:	The instructor asks the student to perform two different methods of testing paper grain. From observation, determine error and re-assign the task.

TASK:	Cut Paper
PERFORMANCE OBJECTIVE:	Given whole sheets of paper, the student must follow strict safety measures and cut the paper to the proper size.
TOOLS AND MATERIALS:	Guillotine paper cutter Line gauge Lift of paper
STUDENT ACTION:	The student recognizes the safety involved in paper cutting. The student sets up the paper cutter. The student makes the paper cuts from stock estimation figures.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has met the objective. Check is made for proper and safe operation. If student has problem, show the student the correct procedure and supervise until task is complete.

TASK:	Make a Side Stitch
PERFORMANCE OBJECTIVE:	Given a stack of paper, the student must make a side stitch on the edge of the paper that is even and stitched completely through the stack.
TOOLS AND MATERIALS:	Stack of paper Power stitcher
STUDENT ACTION:	The student makes a side stitch on the edge of a stack of evenly jogged paper.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student meets the objective. When necessary, show the student the proper use of the stitcher and let him complete the task.

TASK:	Jog Paper
PERFORMANCE OBJECTIVE:	Given a lift of paper, the student must jog the paper making a neat, evenly piled stack.
TOOLS AND MATERIALS:	Lift of paper Power jogger
STUDENT ACTION:	The student jogs a stack of paper by hand. The student jogs a stack of paper with the power jogger.
PERFORMANCE CHECK:	The instructor asks the student to perform two different methods of paper jogging. Make recommendations for improvement.

TASK: Pad Paper

PERFORMANCE OBJECTIVE: Given a stack of evenly jogged paper, the student must pad the paper to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Stack of jogged paper	Padding compound
Chipboard	Padding brush
Padding press/Heavy weight	Padding knife

STUDENT ACTION:

The student makes pads from a stack of loose sheets.

The student separates the pads with a padding knife.

The student trims the pad on three sides.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the student has met the objective.

The instructor makes recommendations for improvement.

TASK:	Make a Single Paper Fold
PERFORMANCE OBJECTIVE:	Given a sheet of paper, the student must make a single fold from edge to edge to meet the specifications of the job.
TOOLS AND MATERIALS:	Wooden or bone folder Electric folder
STUDENT ACTION:	The student folds paper by hand and creases it with a wooden or bone folder. The student sets up the paper folder for a single fold, feeds the paper and makes a single paper fold.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the paper is correctly folded to meet the requirements of the job. If a problem arises, allow the student time to practice, then have him complete the task.

GRAPHICS 2

LESSON PLANS

TASK:	Estimate the Cost of a Production Job
PERFORMANCE OBJECTIVE:	Given a production job to be printed, the student must estimate the cost of the job and make the bid to the satisfaction of the instructor.
TOOLS AND MATERIALS:	Materials price list Job specifications
STUDENT ACTION:	The student figures the cost of a production job including materials, labor and mark-up.
PERFORMANCE CHECK:	The instructor sets up a number of job situations and asks the student to estimate the cost of a job. Assign further tasks accordingly.

TASK:	Read a Job Ticket
PERFORMANCE OBJECTIVE:	Given a production job, the student must read the job ticket and perform the tasks as outlined on the job ticket.
TOOLS AND MATERIALS:	Job ticket
STUDENT ACTION:	The student receives a production job from the instructor. The student performs the tasks step by step to meet the objectives of the job ticket.
PERFORMANCE CHECK:	The instructor checks the finished production job to determine if the student has followed the directions given on the job ticket.

TASK:	Copyfit Body Type
PERFORMANCE OBJECTIVE:	Given body type copy, the student must copyfit the body type to determine how many lines must be set before setting the actual type.
TOOLS AND MATERIALS:	Body type copy Line gauge Pencil
STUDENT ACTION:	The student determines how many characters there are in the total copy. The student determines how many lines of type are required.
PERFORMANCE CHECK:	The instructor sets up a number of different situations to test the student's ability to copyfit body type. If there is a problem, review the procedure of copy-fitting with the student and re-assign the task.

TASK:	Copyfit Display Type
PERFORMANCE OBJECTIVE:	Given a type specimen book and the necessary materials, the student must copyfit display type to determine how much space is needed before setting the actual type.
TOOLS AND MATERIALS:	Type specimen book Strip of paper Pencil
STUDENT ACTION:	The student marks off the exact width of every letter and space to be used in a line or sentence from a type specimen book.
PERFORMANCE CHECK:	The instructor sets up a number of different situations to test the student's ability to copyfit display type. If there is a problem, review the procedure of copy-fitting with the student and re-assign the task.

TASK:	Crop a Photograph
PERFORMANCE OBJECTIVE:	Given a continuous tone photograph, the student must crop the photograph to eliminate any unwanted detail and to emphasize or improve the photograph.
TOOLS AND MATERIALS:	Tissue overlay Line gauge Pencil
STUDENT ACTION:	The student makes crop marks on a tissue overlay. The student makes crop marks on the margins of the photograph.
PERFORMANCE CHECK:	The instructor observes the student cropping the photograph. If there is error, have the student review the principles of design and re-assign the task.

TASK: Reverse Copy

PERFORMANCE OBJECTIVE: Given black and white copy to be reversed, the student must make reversed copy for the paste-up that is camera ready using the most appropriate method.

TOOLS AND MATERIALS:

T-square	Adhesive lettering	Process camera
Triangle	Line positive	Line copy
Black paper/ rubylith	Photographic litho paper	PMT negative paper
Waxer	Contacting equipment	PMT negative receiver
Exacto knife	Working chemistry	Diffusion-transfer processor

STUDENT ACTION: The student makes a reverse by preparing the area to be reversed with black paper and applying adhesive lettering exactly in position on the black paper.
The student makes a reverse by exposing line copy to the PMT negative paper and processing the paper with negative receiver paper in the diffusion-transfer processor.
The student makes a reverse by contacting a positive to photographic litho paper.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has met the objective.
If the student has difficulty, the instructor should recommend the best method of reversing copy and show the student the correct procedure for completing the task.

TASK: Make a Line and Halftone Paste-up

PERFORMANCE OBJECTIVE: Given line and halftone copy, the student must make a line and halftone paste-up that is camera ready using the most appropriate method.

TOOLS AND MATERIALS:

T-square	Blue pencil	PMT halftones
Triangle	Black ball point	Black paper/rubylith
White poster-board	Waxer	
	Exacto knife	
Masking tape		
	Line copy	
Line gauge		

STUDENT ACTION: The student pastes up line copy in its exact position to be printed.

The student pastes up PMT halftones in conjunction with the line copy.

The student pastes up black paper/rubylith on the art-work to serve as clear windows when photographed. The halftones are stripped to the back of these windows in a latter process.

The student makes a keyline paste up to serve as a guide for overlaying halftones in conjunction with the line copy.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has met the objective.

If the student has difficulty, the instructor should recommend the best method of paste-up and show the student the correct procedure for completing the task.

TASK: Paste-up an Eight Page Booklet

PERFORMANCE OBJECTIVE: Given a dummy and the necessary type matter, the student must prepare a paste-up for an eight page booklet that is camera ready.

TOOLS AND MATERIALS:

- T-square
- Triangle
- White poster-board
- Masking tape
- Line Gauge
- Blue pencil
- Black ball point
- Artwork
- Job dummy
- Waxer
- Exacto knife
- White opaque

STUDENT ACTION: The student pastes up an eight page booklet with correct imposition of pages.

The student includes a gutter margin large enough to allow for proper trimming after folding.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has correctly layed out and secured all type matter and illustrations.

From observation, check for mistakes and provide the student with corrective suggestions for completing the task.

TASK:	Paste Up Borders
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must lay out borders on the paste-up that are straight and accurate.
TOOLS AND MATERIALS:	Border material Exacto knife
STUDENT ACTION:	The student carefully aligns and applies adhesive border material to a paste-up. The student overlays and miters the corners.
PERFORMANCE CHECK:	The instructor checks the student's work to determine if the student has accurately set borders. From observation, determine any errors which were made and make recommendations for improvement.

TASK:	Mix Stock Chemical Solutions
PERFORMANCE OBJECTIVE:	Given manufacturer's liquid or powdered chemicals, the student must mix stock chemical solutions that are ready to be mixed into a proper working solution.
TOOLS AND MATERIALS:	Manufacturer's chemicals Plastic containers Darkroom graduate Thermometer Mixing paddle
STUDENT ACTION:	The student mixes the manufacturers chemicals into a stock shelf chemical solution. The student mixes the chemicals to the proper temperature recommended by the manufacturer.
PERFORMANCE CHECK:	The instructor tests the mixed stock solution to determine if the student has properly mixed the solution.
NOTE:	Caution should be taken when mixing chemistry to ALWAYS ADD CHEMICALS TO WATER.

TASK:	Clean Camera Lens
PERFORMANCE OBJECTIVE:	Given a camera's lens, the student must remove and clean the lens leaving no dust particles or fingerprints which could be photographed, to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Lens cleaning fluid Lens cleaning tissue
STUDENT ACTION:	The student carefully removes the lens from the lensboard and cleans both sides of the lens, leaving no dust particles.
PERFORMANCE CHECK:	The instructor inspects the camera's lens to determine if the student has thoroughly completed the task.
NOTE:	Care should be taken not to scratch the lens or to drop or jar the lens. Student should NEVER try to take a lens apart. This should be done by a professional.

TASK:	Position Camera Lamps
PERFORMANCE OBJECTIVE:	Given a process camera, the student must position the camera lamps to provide an even coverage of light over the copyboard.
TOOLS AND MATERIALS:	45^{o} triangle Yard stick
STUDENT ACTION:	The student positions the camera lamps on each side of the camera to approximately a 45^{o} angle. The student sets the distance between the camera lamps and the copyboard.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has positioned the camera lamps to give the best possible coverage of light over the copyboard. If the student incorrectly places the lamps, show him correct procedure and explain the reason for even light coverage on the copyboard.

TASK: Reproduce Copy with Different Line Weight

PERFORMANCE OBJECTIVE: Given thin or bold copy, the student must reproduce copy with different line weight by exposing and developing it to the proper step on the gray scale.

TOOLS AND MATERIALS:

Process camera	12 step reflective gray scale
Bold copy	Ortho film
Thin or light copy	Working chemistry

STUDENT ACTION: The student exposes bold copy and develops it to approximately step 5 on the gray scale.
The student exposes thin or light copy and "still develops" it to approximately step 3 on the gray scale.

PERFORMANCE CHECK: The instructor observes the student's performance to determine of the student has correctly exposed and developed difficult line copy.
From observation, determine errors which were made and provide the student with corrective suggestions for completing the task.

TASK:	Reduce or Enlarge a Line Negative
PERFORMANCE OBJECTIVE:	Given a camera with a transparent copyboard, the student must reduce or enlarge a line negative and process it to meet the manufacturers recommendation.
TOOLS AND MATERIALS:	Process camera Line negative Duplicating film Working chemistry
STUDENT ACTION:	The student places a line negative (or positive) on the transparent copyboard of the process camera and sets the camera for a reduction or an enlargement. The student exposes duplicating film (emulsion up toward the lens) on the process camera and processes the film to meet the manufacturers recommendation.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has correctly reduced or enlarged a line negative. If there is an error, show the student the error and provide corrective suggestions for completing the task.

TASK: Hold or Drop Color

PERFORMANCE OBJECTIVE: Given colored copy, the student must hold or drop the color with the use of a filter and process it to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

- Process camera
- Colored copy
- Ortho or panchromatic film
- Wratten filters
- Filter chart
- 12 step reflective gray scale
- Working chemistry

STUDENT ACTION: The student inserts the wratten filter into the filter holder of the lens.

The student figures the filter factor and exposes the film (emulsion toward the lens) on the process camera.

The student processes the film to meet the manufacturers recommendation.

PERFORMANCE CHECK: The instructor observes the student's negative to determine if the student has held or dropped the color.

If the student has a problem, provide corrective suggestions for completing the task.

TASK:	Process Panchromatic Film
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must process panchromatic film in total darkness to meet the manufacturers recommendation.
TOOLS AND MATERIALS:	Light tight darkroom Exposed panchromatic film Timer Working chemistry
STUDENT ACTION:	The student sets the timer for the exact amount of time and processes the film in total darkness. The student checks the processed negative to determine if correct exposure and development were achieved.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has exposed and developed panchromatic film in total darkness to meet the manufacturers recommendation. If there is error, provide the student with corrective suggestions for completing the task.

TASK: Make a Spread or a Choke

PERFORMANCE OBJECTIVE: Given a film negative or a film positive, the student must make a spread or a choke in the contact frame using one of two different methods.

TOOLS AND MATERIALS:

Contact frame	Duplicating film
Point source light	Diffusion sheet
Film negative or positive	.005 clear acetate
Ortho film	Working chemistry

STUDENT ACTION: The student makes a spread or choke negative or positive by sandwiching a diffusion sheet between a piece of live film and a line negative or positive and making a contact exposure. This will spread or choke the film approximately .002" - .004".

The student makes a spread or choke negative or positive by sandwiching a piece of clear .005" acetate between a piece of live film and a line negative or positive. The exposure is made by moving the point source light at approximately a 45° angle over the contact frame. This will spread or choke the film approximately .004" - .008".

The student processes the film to meet the manufacturers recommendation.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has correctly spread or choked a negative or positive.
If there is an error by the student, show him the correct procedure and re-assign the task.

NOTE: When making a spread or a choke, the student should remember to keep both the line negative or positive and the line film's emulsion up when making the contact exposure.

TASK: Calibrate Halftone Computer

PERFORMANCE OBJECTIVE: Given a relective density guide and the necessary materials, the student must calibrate the halftone computer by making a detail exposure test and a flash exposure test.

TOOLS AND MATERIALS:

Process camera	Halftone flashing light
Reflective density guide	Working chemistry
Quality ortho film	Halftone computer
Contact screen	Magnifying glass
Rubber contact roller	

STUDENT ACTION: The student places a reflective density guide in the copyboard and makes a detail exposure test a 100%.

The student makes a flash exposure test at five second intervals.

The student processes the film at 68° for 2½ minutes.

The student finds the basic density range and calibrates the halftone computer accordingly.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has correctly made a density test and calibrated the halftone computer to figure halftone exposures.

From observation, determine if any errors were made and point them out to the student. Have him perform the task until perfected.

NOTE: When making a density test negative, the student should be aware that the conditions must be consistent in the film development. He should use fresh developer - that is at the proper (68°) developing temperature and use a consistent agitation when developing the film.

TASK:	Determine Halftone Exposure
PERFORMANCE OBJECTIVE:	Given continuous tone copy the student must make highlight and shadow density readings and determine the detail, flash and bump exposures using the calibrated halftone computer.
TOOLS AND MATERIALS:	Continuous tone copy Densitometer Calibrated halftone computer
STUDENT ACTION:	The student makes highlight and shadow density readings from a densitometer or a reflection density guide. The student uses the density readings and the calibrated halftone computer to determine the main, flash and bump exposure.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student correctly makes density readings and applies the readings to the calibrated halftone computer. When necessary, show the student the correct procedure for making density readings and finding the halftone exposure. Re-assign the task.

TASK: Make a Halftone Negative

PERFORMANCE OBJECTIVE: Given continuous tone copy and the necessary materials, the student must make a detail, flash and bump exposure on quality ortho film and process it to the correct tonal range.

TOOLS AND MATERIALS:

- Process camera
- Continuous tone copy
- Quality ortho film
- Contact screen
- Rubber contact roller
- Halftone flashing light
- Working chemistry
- Magnifying glass

STUDENT ACTION: The student makes a halftone detail exposure and a flash exposure through a contact screen.
The student makes a bump exposure if needed.
The student processes the film by inspection to the correct tonal range.

PERFORMANCE CHECK: The instructor checks the student's work to determine if the student has properly exposed and developed the halftone negative.
If there is error, offer the student corrective suggestions and have him redo the task.

TASK: Make a PMT Paper Halftone

PERFORMANCE OBJECTIVE: Given continuous tone copy and the necessary materials, the student must make halftone exposures on PMT negative paper and process it in the diffusion transfer processor.

TOOLS AND MATERIALS:

Process camera	Contact screen
Continuous tone copy	Rubber contact roller
Negative paper	Halftone flashing light
Receiver paper	Diffusion transfer processor

STUDENT ACTION: The student makes a halftone detail exposure and a flash exposure throught a 100 line contact screen on negative paper.
The student makes a bump exposure if necessary.
The student processes the negative paper in conjunction with receiver paper in the diffusion transfer processor.

PERFORMANCE CHECK: The instructor checks the student's work to determine if the student has properly exposed and processed the PMT halftone.
If there is error, offer the student corrective suggestions and have him redo the task.

TASK:	Clean Diffusion Transfer Processor
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must clean a diffusion transfer processor and replenish the chemistry to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Sink with running water Shop rags Diffusion transfer chemistry
STUDENT ACTION:	The student drains all chemistry from the diffusion transfer processor and washes out the processing unit. The student adds fresh chemistry to the processor.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has correctly cleaned and replenished the solution in the diffusion transfer processor.

TASK: Make a Two-Color Duotone

PERFORMANCE OBJECTIVE: Given black and white continuous tone copy, the student must determine exposures and make a two color duotone to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

- Process camera
- Black and white continuous tone copy
- Densitometer
- Calibrated halftone computer
- Quality ortho film
- Contact screen
- Rubber contact roller
- Halftone flashing light
- Working chemistry
- Magnifying glass

STUDENT ACTION: The student determines the exposure and processes the primary halftone to normal contrast at a screen angle of 45°.

The student determines the exposure and processes the secondary halftone to carry more contrast (a few seconds more exposure) at a screen angle of 15° or 75°.

The student makes a proof to determine if the moire pattern is present.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has made both halftones to the proper densities.

Check is made for moire pattern when putting the two negatives in register.

If there is error, provide the student with corrective suggestions and have him repeat the task.

TASK: Rescreen Printed Halftones

PERFORMANCE OBJECTIVE: Given a printed halftone illustration, the student must rescreen the printed halftone leaving no distinct moire pattern.

TOOLS AND MATERIALS:

Printed halftone	Contact screen
Screen angle indicator	Rubber contact roller
Screen ruling indicator	Halftone flashing light
Process camera	Working chemistry
Quality ortho film	Magnifying glass

STUDENT ACTION:

The student finds the original halftone screen angle by using a screen angle indicator.

The student finds the original halftone screen ruling by using a screen ruling indicator.

The student selects a screen of the same ruling and angles the screen 30° from the original angle.

The student exposes and processes the halftone by the normal method.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the student has rescreened the halftone properly.

Check is made for a moire pattern.

Provide corrective suggestions and give individual assistance in completing the task.

TASK: Make a Pleasing Color Separation

PERFORMANCE OBJECTIVE: Given continuous tone color copy, the student must make a pleasing color separation and process it to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Process camera	Contact screen
Continuous tone color copy	Rubber contact roller
Densitometer	Halftone flashing light
Halftone computer	#58 green filter
Orthochromatic film	#47 blue filter
Panchromatic film	#25 red filter
Reflective gray scale	
Color bar	

STUDENT ACTION: The student determines exposure and exposes the magenta printer negative using a #58 green filter, 75° screen angle and orthochromatic film.

The student determines exposure and exposes the yellow printer negative using a #47 blue filter, 105° screen angle and orthochromatic film.

The student determines exposure and exposes the cyan printer negative using a #25 red filter, 45° screen angle and panchromatic film.

The student develops each negative directly after exposure and checks for correct placement of dots.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has made the three negatives with correct

placement of dots.

If there is error, review the procedure for color separation with the student and have him repeat the task.

TASK:	Make a Job Dummy for Eight Page Booklet
PERFORMANCE OBJECTIVE:	Given correct job specifications, the student must fold a job dummy for an eight page booklet, the same size of the actual job.
TOOLS AND MATERIALS:	Paper cut to size of job Pencil Line gauge
STUDENT ACTION:	The student cuts paper to the actual size of the job and folds it into an eight page booklet. The student marks the pages in the correct sequence of order.
PERFORMANCE CHECK:	The instructor checks the student's work to determine if the dummy is folded to the exact dimensions of the real job and is marked accordingly.

TASK: Square a Light Table

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must square a light table so two adjacent sides are square.

TOOLS AND MATERIALS:

Light table	11" x 17" piece of paper
T-square	Masking tape
Triangle	Pen or pencil

STUDENT ACTION: The student tapes the paper to the light table and draws vertical lines from a T-square - triangle combination. The student puts the T-square to the bottom edge, loosens the screws and squares to the vertical lines on the paper.

PERFORMANCE CHECK: The instructor checks the light table to determine if the student has squared the table to meet the objective.

TASK: Strip Butted Halftones

PERFORMANCE OBJECTIVE: Given two halftones, the student must strip butted halftones that bleed into each other with the least amount of overlay possible.

TOOLS AND MATERIALS:

Light table	Line gauge
T-square	Pen or Pencil
Triangle	Halftone negatives
Masking sheets	Red litho tape
⅛" punch	Transparent tape
⅛" register pins	Exacto knife

STUDENT ACTION:

The student punches three masking sheets in register.

The student aligns the first halftone in its correct position on the first masking sheet.

The student butts the second halftone next to the first halftone with proper bleeding margin on the second masking sheet.

The student makes a crop mask on the third masking sheet to be used as an overlay to assure straight and even edges.

PERFORMANCE CHECK:

The instructor observes the student's work to determine if the student has met the objective.

If there is any error, point out the student's mistakes and show him the correct procedure for butting halftones.

TASK: Strip Work and Turn

PERFORMANCE OBJECTIVE: Given one masking sheet and negatives for a two-sided job, the student must strip the job work and turn to allow for two sides of a job to be printed from one plate.

TOOLS AND MATERIALS:

Light table	Pen or pencil
T-square	Scissors
Triangle	Negatives for two-sided job
Masking sheet	Red Litho tape
Line gauge	Transparent tape
	Exacto knife

STUDENT ACTION: The student aligns negatives for a work and turn job to the same masking sheet, wrong reading emulsion up.
The student securely tapes the negative to the masking sheet.
The student turns the masking sheet over and cuts windows around the image to let light pass through.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the negatives are aligned correctly in relationship to each other.
When necessary, show the student any errors which were made. Have the student correct his own errors.

NOTE: Student should make sure that when the job is turned, both sides back each other up correctly.

TASK: Strip Work and Tumble

PERFORMANCE OBJECTIVE: Given one masking sheet and negatives for a two-sided job, the student must strip the job work and tumble to allow for two sides of a job to be printed from one plate.

TOOLS AND MATERIALS:

- Light table
- T-square
- Triangle
- Masking sheet
- Line gauge
- Pen or pencil
- Scissors
- Negatives for a two-sided job
- Red litho tape
- Transparent tape
- Exacto knife

STUDENT ACTION: The student aligns negatives for a work and tumble job to the same masking sheet, wrong reading emulsion up.
The student securely tapes the negatives to the masking sheet.
The student turns the masking sheet over and cuts windows around the image to let light pass through.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the negatives are aligned correctly in relationship to each other.
When necessary, show the student any errors which were made.
Have the student correct his own errors.

NOTE: On a work and tumble job the student should know that the gripper changes for the second run while the guide side remains the same.

TASK: Strip Step and Repeat

PERFORMANCE OBJECTIVE: Given negatives, the student must strip the job step and repeat by aligning one row of images on the masking sheet and preparing the masking sheet for multiple burns.

TOOLS AND MATERIALS:

Light table	Line gauge	Red litho tape
T-square	Pen or pencil	Transparent tape
Triangle	Scissors	Exacto knife
Masking sheet	Negatives	Step and repeat machine

STUDENT ACTION: The student lays out dimensions on the masking sheet for all the images to be printed on the plate.
The student punches the masking sheet for the step and repeat process.
The student strips the negatives in a row for multiple burning.

PERFORMANCE CHECK: The instructor checks the student's work to determine if every image will align properly when multiply burned. If there is a mistake, show the student the mistake and have him perform the task again.

TASK: Strip a Two Color Duotone

PERFORMANCE OBJECTIVE: Given two halftone negatives from the same photograph, the student must strip a two color duotone in register to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Light table	¼" register pins	Red litho tape
T-square	Line gauge	Transparent tape
Triangle	Pen or pencil	Exacto knife
Masking sheets	Scissors	
¼" punch	Two halftone negatives	

STUDENT ACTION: The student punches two masking sheets in register.
The student aligns the first halftone negative to a masking sheet and cuts windows.
The student aligns the second halftone negative to the second masking sheet in register with the first halftone negative and cuts windows.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has aligned the negatives in register. Check is made for a moire pattern from the two negatives. When necessary, show the studdent any errors which were made and have him complete the task.

TASK: Strip in Quality Control Devices

PERFORMANCE OBJECTIVE: Given a stripped masking sheet, the student must strip in quality control devices without exposing these control devices to the image area of the plate.

TOOLS AND MATERIALS:

- Light table
- T-square
- Triangle
- Line gauge
- Stripped masking sheet
- Quality control strip(s)
- Red litho tape
- Transparent tape
- ¼" punch
- ¼" register pins
- Masking sheet(s)
- Exacto knife
- Pen or pencil

STUDENT ACTION: The student strips quality control devices or patches in the trim area of the masking sheet.

PERFORMANCE CHECK: The instructor checks the student's work to determine if the quality control devices are stripped properly and are not in the image area of the copy.

TASK: Outline Halftone

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must outline the background of a halftone using one of two different methods to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Halftone negative	Rubylith
Opaque	Transparent tape
Opaque brush	Exacto knife

STUDENT ACTION: The student blocks out the background on a halftone by opaquing on the hard side of the negative.
The student blocks out the background on a halftone by cutting on a rubylith overlay.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has blocked out or outlined the background on a halftone.
From observation, help the student determine which method of outlining would be most appropriate for use.

TASK: Make a Step and Repeat Plate

PERFORMANCE OBJECTIVE: Given a stripped masking sheet, the student must make a step and repeat plate by making multiple burns on an offset plate.

TOOLS AND MATERIALS:

Platemaker	21 step transparent gray scale
Presensitized plate	Platemaking chemistry
Stripped masking sheet	Developing pads

STUDENT ACTION: The student places the presensitized plate and a step and repeat masking sheet (emulsion to emulsion) in the platemaker.

The student makes multiple exposures of the same image on the plate.

The student develops the plate to the manufacturers recommendation.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student has set up and made proper exposures for a step and repeat plate.

TASK:	Make Dampening Form Roller-to-Plate adjustment
PERFORMANCE OBJECTIVE:	Given testing strips and the necessary materials, the student must make a dampening form roller-to-plate adjustment that meets the specifications of the press manual.
TOOLS AND MATERIALS:	Offset press Offset plate Two-inch strips of .005 acetate Press manual
STUDENT ACTION:	The student attaches a plate to an offset press. The student places two-inch strips between the plate and the dampening form rollers on the right and left sides. The student drops the form rollers and pulls on the two-inch strips. A correctly adjusted form roller will have a slight amount of tension on each side when pulled. The student makes the necessary adjustments.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has correctly made the dampening form roller adjustment. If the student has a problem, show him the correct procedure for completing the task.

TASK: Make Ink Form Roller-to-Plate Adjustment

PERFORMANCE OBJECTIVE: Given an old plate and the necessary materials, the student must make an ink form roller-to-plate adjustment to meet the specifications of the press manual.

TOOLS AND MATERIALS:

Offset press

Old offset plate

Press manual

STUDENT ACTION:

The student attaches an old plate on the offset press.

The student drops the ink form rollers in contact with the plate and then raises them again.

The student turns the press's handwheel until the inked test lines on the plate appear. A correctly adjusted form roller should show an even strip of ink of about 3/16" wide.

The student makes the necessary adjustments.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student has correctly made the ink form roller adjustment.

If the student has a problem, show him the correct procedure for completing the task.

TASK: Make Plate-to-Blanket Adjustment

PERFORMANCE OBJECTIVE: Given an old plate and the necessary materials, the student must make a plate-to-blanket adjustment to meet the specifications of the press manual.

TOOLS AND MATERIALS:

Offset press

Old offset plate

Press manual

STUDENT ACTION:

The student attaches an old plate on the offset press.

The student drops the ink form rollers (dampening form rollers remain off) and inks the entire surface of the plate.

The student turns the press's handwheel until the plate is in position to contact with the blanket.

The student makes an impression between the plate and the blanket cylinder and makes the necessary adjustments.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if there is an even amount of pressure between the plate and the blanket cylinders.

If the student has a problem, show him the correct procedure for completing the task.

TASK:	Make Impression Adjustment (Squeeze Test)
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must make an impression adjustment to meet the specifications of the press manual.
TOOLS AND MATERIALS:	Offset press Old offset plate Press manual
STUDENT ACTION:	The student attaches an old plate on the offset press and places the image on the blanket in the normal manner. The student turns the press's handwheel until the blanket image is over the solid portion of the impression cylinder. The student places a piece of paper between the blanket and impression cylinders and makes an impression. The student makes necessary adjustments.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if there is an even amount of pressure between the blanket and impression cylinders. If the student has a problem, show him the correct procedure for completing the task.

TASK: Mix Fountain Solution

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must mix an offset press's fountain solution and test it for the proper pH.

TOOLS AND MATERIALS:

Fountain solution bottle
Mixing graduate
Concentrate fountain solution
Gum arabic
pH sticks

STUDENT ACTION:

The student mixes the concentrate fountain solution and gum arabic with water to meet the manufacturer's recommendation.

The student tests the solution for proper pH (4.5 - 6 is recommended).

The student adjusts the solution to the correct pH value.

PERFORMANCE CHECK: The instructor checks the fountain solution to determine if the student has mixed the solution to the correct pH. If there is error, provide the student with corrective suggestions for completing the task.

NOTE: It is important to always ADD CONCENTRATE TO WATER.

TASK: Mix Ink

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must divide and weigh equal parts of ink and mix them to match a color sample.

TOOLS AND MATERIALS:

Ink scale

Ink knife

Ink book with mixing formulas

Offset ink

STUDENT ACTION:

The student matches the sample color to a similar color in the ink book and records mixing formulas.

The student weighs appropriate amounts of each color of ink on the ink scale.

The student thoroughly mixes all colors involved with an ink knife.

PERFORMANCE CHECK:

The instructor matches the mixed ink to the color sample to determine if the student has matched the color.

If there is an error, re-assign the task.

NOTE: The student should take care when mixing to keep the area and the tools involved as clean as possible. Any fragments or particles mixed in with the ink or small amounts of a foreign color will have an effect on the final mixed ink.

TASK: Print a Two-Color Duotone

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set-up an offset press and print a two-color duotone maintaining proper register to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Metal plates	Magnifying glass
Fountain solution	Paper	Blanket wash
Offset inks	Cotton pads	
Ink knife	Shop rags	

STUDENT ACTION:

The student sets up the press with the primary color ink.

The student installs the plate and makes the primary color press run.

The student sets up the press with the secondary color ink.

The student installs the plate and makes the secondary color press run in perfect register with the primary color.

PERFORMANCE CHECK:

The instructor observes the student's performance to determine if the student properly sets up and prints a duotone in register.

Check is made for proper and safe operation of the press.

If there is error, provide the student with corrective suggestions and assist him in completing the task.

TASK: Print Reverses or Solids

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must set up an offset press and print a job containing reverses or solids to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Metal Plate	Blanket wash
Fountain solution	Paper	
Offset ink	Cotton pads	
Ink knife	Shop rags	

STUDENT ACTION: The student sets up the press and installs a metal plate containing reversed or solid areas.
The student makes a press run maintaining a good coverage of ink over the reversed or solid area.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student provides an even amount of coverage of ink over the solid areas.
If there is error, provide the student with corrective suggestions for completing the task.

NOTE: If possible, adjust the feeding system of the press to feed a sheet every other time. This will allow the blanket to ink up twice, permitting better coverage of ink over the solid areas.

TASK: Print Two Sides from One Plate

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must print a two-sided job using the work and turn or the work and tumble method to meet the instructor's satisfaction.

TOOLS AND MATERIALS:

Offset press	Offset plate	Blanket wash
Fountain solution	Paper	
Offset ink	Cotton Pads	
Ink knife	Shop rags	

STUDENT ACTION: The student sets up the press with the desired color of ink and installs the plate.
The student makes the first press run.
The student turns or tumbles the paper and makes the second press run using the same plate used for the first run.

PERFORMANCE CHECK: The instructor observes the student's performance to determine if the student properly sets up the press and prints a two-sided job using only one plate.
If there is error, provide the student with corrective suggestions for completing the task.

NOTE: When printing work and tumble, the student should be taught that the gripper margin will change. He should allow for gripper on the top and the bottom of the sheet.

TASK: Replace Blanket

PERFORMANCE OBJECTIVE: Given the necessary materials, the student must replace an old or worn blanket with a new blanket to meet the manufacturer's recommendation.

TOOLS AND MATERIALS:

New blanket	Blanket wash
Packing sheets	Shop rag
Micrometer	Press manual

STUDENT ACTION: The student removes the old blanket and cleans the blanket cylinder.

The student prepares the packing sheets (check press manual for thickness) if the press being used requires them.

The student secures the forward edge of the blanket and the packing sheets to the blanket cylinder.

The student secures the trailing edge of the blanket and packing sheets to the blanket cylinder.

PERFORMANCE CHECK: The instructor checks the blanket cylinder to determine if the student has correctly installed a new rubber blanket. If the student has a problem, show him the correct procedure for completing the task.

TASK:	Replace Dampening Cover
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must replace an old or worn dampening cover with a new cover to meet the manufacturer's recommendation.
TOOLS AND MATERIALS:	New dampening cover
STUDENT ACTION:	The student removes the old cover from the roller. The student installs a new dampening cover, puts the roller back on the press and makes the dampening form roller-to-plate adjustment.
PERFORMANCE CHECK:	The instructor checks the dampening cover to determine if the student has correctly removed and replaced the worn cover. If the student has a problem, show him the correct procedure for completing the task.
NOTE:	Before the student replaces the old dampening form roller cover, he should first clean the roller with soap and water to be sure the cover really needs replacement, not just cleaning.

TASK:	Lubricate the Press
PERFORMANCE OBJECTIVE:	Given lubricants, the student must lubricate the offset press's vital areas to meet the manufacturer's recommendation.
TOOLS AND MATERIALS:	Press manual #20 SAE motor oil Shop rag Gear grease
STUDENT ACTION:	The student locates each lubrication point in the press manual. The student starts at a point on the press and works his way around the press lubricating according to the press manual. The student greases the gears of the press according to the press manual.
PERFORMANCE CHECK:	The instructor checks the press's vital areas to determine if the student has thoroughly lubricated the press to the specifications of the press manual.
NOTE:	Make sure the press is stopped before attempting any press lubrication. Lubricate any moving parts by turning the hand wheel.

TASK:	Make a "Dutch" Paper Cut
PERFORMANCE OBJECTIVE:	Given whole sheets of paper, the student must follow strict safety measures and make a "dutch" paper cut to get the most sheets possible from the whole sheet.
TOOLS AND MATERIALS:	Guillotine paper cutter Line gauge Lift of paper
STUDENT ACTION:	The student recognizes the safety involved in paper cutting. The student figures the "dutch" paper cut to get as many cut sheets as possible from a whole sheet of paper. The student sets up the paper cutter and makes the "dutch" paper cut.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has correctly figured and made a "dutch" paper cut. Check is made for proper and safe operation. If the student has a problem, show the student the correct procedure and supervise until the task is mastered.
NOTE:	When making a "dutch" cut, the student should be made aware of the fact that some of the sheets will have the grain running in different directions.

TASK:	Replace Paper Cutter Blade
PERFORMANCE OBJECTIVE:	Given the necessary materials, the student must remove and replace the paper cutter blade to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Guillotine paper cutter Sharpened paper cutter blade Wrenches
STUDENT ACTION:	The student removes the blade from a guillotine paper cutter. The student carefully installs a new paper cutter blade and secures all bolts for proper cutting action.
PERFORMANCE CHECK:	The instructor checks the paper cutter blade to determine if the student has correctly removed and replaced the blade. If the student has a problem, show the student the correct procedure and supervise until the task is completed.

TASK:	Gather Paper
PERFORMANCE OBJECTIVE:	Given individual sheets or pages, the student must gather the paper to achieve the correct order for assembly.
TOOLS AND MATERIALS:	Lifts of individual sheets or pages Collator
STUDENT ACTION:	The student gathers individual sheets or pages by putting the stacks of paper in order on a table and picking up one sheet from each stack for correct assembly. The student gathers indivdual sheets or pages with an automatic collator.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has met the objective.

TASK:	Drill Holes
PERFORMANCE OBJECTIVE:	Given an evenly jogged stack of paper, the student must drill holes in the paper that are at the appropriate distance for fitting into binding.
TOOLS AND MATERIALS:	Lift of paper Power drill
STUDENT ACTION:	The student drills holes into a lift of paper (approximately ½" stack at a time).
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student has met the objective. The instructor makes recommendations for improvement if needed.

TASK:	Make an Accordian Fold
PERFORMANCE OBJECTIVE:	Given a sheet of paper, the student must make an accordian fold (double fold) on the electric folder to meet the specifications of the job.
TOOLS AND MATERIALS:	Paper Electric folder
STUDENT ACTION:	The student sets up the paper folder for an accordian fold, feeds the paper and makes the fold.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the paper is correctly folded to meet the specifications of the job. If a problem arises, allow the student time to practice, then have him complete the task.

TASK:	**Make Two Right Angle Folds**
PERFORMANCE OBJECTIVE:	**Given a printed eight page sheet, the student must make two right angle folds on the electric folder to meet the specifications of the job.**
TOOLS AND MATERIALS:	**Eight page signature** **Electric paper folder**
STUDENT ACTION:	**The student sets up the paper folder for making two right angle folds, feeds the paper and makes the fold.**
PERFORMANCE CHECK:	**The instructor observes the student's performance to determine if the paper is correctly folded to meet the specifications of the job.** **If a problem arises, allow the student time to practice, then have him complete the task.**

TASK:	**Make a Saddle Stitch**
PERFORMANCE OBJECTIVE:	Given a eight-page booklet, the student must make a saddle stitch on the edge of the booklet that is even and stitched completely through the booklet.
TOOLS AND MATERIALS:	Gathered eight-page booklet Power stitcher
STUDENT ACTION:	The student sets up the stitcher and makes a saddle stitch on the fold of the booklet.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the student has met the objective. When necessary, show the student the proper use of the stitcher and let him complete the task.

TASK:	Trim an Eight-Page Booklet
PERFORMANCE OBJECTIVE:	Given an assembled eight-page booklet, the student must follow strict safety measures and trim the booklet, making three precise cuts.
TOOLS AND MATERIALS:	Assembled eight-page booklet Guillotine paper cutter Line gauge
STUDENT ACTION:	The student recognizes the safety involved in paper cutting. The student trims the booklet, making a sequence of three precise cuts.
PERFORMANCE CHECK:	The instructor observes the student's performance to determine if the student correctly trims an assembled eight-page booklet. Check is made for proper and safe operation. If the student has a problem, show the student the correct procedure and supervise until the task is mastered.
NOTE:	Have the student stack only a few booklets in the paper cutter at a time. This allows for less of a chance for making an uneven cut.

TASK: Score or Perforate on the Offset Press

PERFORMANCE OBJECTIVE: Given a printed job, the student must score/perforate the paper on the offset press to meet the specifications of the job.

TOOLS AND MATERIALS:

Offset press	Paper
Scoring/perforating strip	Exacto knife
Old blanket	
Rubber cement	

STUDENT ACTION: The student replaces the offset press's blanket with an old blanket.

The student applies scoring/perforating material to a press sheet and applies rubber cement to the impression cylinder.

The student hand feeds the press sheet so it will wrap around the impression cylinder and cuts the press sheet right behind the gripper.

The student re-adjusts the impression and the double sheet detector and makes the scoring/perforating run.

PERFORMANCE CHECK: The instructor observes the student's work to determine if the student has scored/perforated the paper to meet the specifications of the job.

TASK:	Wrap a Stack of Paper
PERFORMANCE OBJECTIVE:	Given a completed job, the student must wrap a stack of jogged paper for delivery, to meet the instructor's satisfaction.
TOOLS AND MATERIALS:	Wrapping paper. Wrapping tape Razor blade or matte knife.
STUDENT ACTION:	The student wraps a completed production job for delivery to the customer.
PERFORMANCE CHECK:	The instructor observes the student's work to determine if the job is wrapped properly for delivery.

APPENDIX

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Price - $4.25

Graphics I
Oklahoma Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, Stillwater, Oklahoma
Price - unavailable

A Guide for Teaching Graphic Arts in Indiana
Instructional Materials Laboratory, Trade and Industrial Education, Ohio State University, Columbus, Ohio
Price - unavailable

Halftone Photography Curriculum Guide
The Eastman Kodak Company, Audio-Visual Library Distribution, Rochester, New York
Price - $7.00

Industrial Arts Curriculum Guide for Graphic Arts in Ohio Schools
Instructional Materials Center, Southern Illinois University, Carbondale, Illinois
52 pages
Price - unavailable

Line Photography Curriculum Guide
The Eastman Kodak Company, Audio-Visual Library Distribution, Rochester, New York
Price - $7.00

Lithographic Platemaking Curriculum Guide
The Eastman Kodak Company, Audio-Visual Library Distribution, Rochester, New York
Price - $7.00

Printing
Instructional Materials Laboratory, University of Missouri, Columbia, Missouri
84 pages
Price - $3.50

Printing - Basic Course Outline
Texas A & M University, College Station, Texas
Price - $2.15

Printing Curriculum Guide
Vocational-Technical Curriculum Laboratory, Rutgers University, New Brunswick, New Jersey
Price - $2.00

Resource Guide for Performance-Based Graphic Arts Instruction
Department of Industrial Education, University of Maryland, College Park, Maryland
140 pages
Price - unavailable

Vocational Offset Printing - Basic Plan for the Organization and Management of Instruction
Research and Curriculum Coordinating Unit, Mississippi State University, State College, Mississippi
50 pages
Price - $1.50

ERIC SEARCH (graphic arts, performance based education, curriculum guides)

ED099557 CE002644
Course of Study in Printing and Preparing Graphics
Mosca, J.B.
36 pages
EDRS Price MF - $0.76 HC - $1.95 Plus Postage

ED106581 CE003753
Exploring Careers in Graphic Reproduction and Printing Occupations
Cincinnati Public Schools, Ohio
62 pages
EDRS Price MF - $0.76 HC - $3.32 Plus Postage

ED120542 CE006932
Graphic Arts Technology: Industrial Arts Curriculum Guide
Louisiana State Department of Education, Baton Rouge, Louisiana
38 pages
EDRS Price MF - $0.83 HC - $2.06 Plus Postage

ED128572 CE007566
Graphic Arts Trade and Industrial Education Trade Preparatory Training Guide
Nebraska State Department of Education, Lincoln, Nebraska
Division of Vocational Education
46 pages
EDRS Price MF - $0.83 HC - $2.06 Plus Postage

ED111943 CE004663
Graphic Communications (Career Education Guide)
Dependent Schools (DOD), Washington, D.C., European Area
113 pages
EDRS Price MF - $0.76 HC - $5.70 Plus Postage

ED139972 CE010993
Graphic Communications (Performance Objectives 7-9)
Duval County School Board, Jacksonville, Florida
178 pages
EDRS Price MF - $0.83 HC - $10.03 Plus Postage

ED051202 SP007282
Industrial Arts Education
South Dakota State Department of Public Instruction, Pierre, South Dakota
78 pages
EDRS Price MF - $0.76 HC - $4.43 Plus Postage

ED098344 88 CE002424
Industrial Communications Systems
Kansas State College of Pittsburg, School of Technology
181 pages
EDRS Price MF - $0.76 HC - Not available

ED096398 CE001988
Meet the Printer; Graphic Communications 7-9 Prevocational
Dade County Public Schools, Miami, Florida
16 pages
EDRS Price MF - $0.76 HC - $1.58 Plus postage

ED041165 08 VT011523
Offset Printing, Course Description
Minneapolis Public Schools, Minnesota Work Opportunity Center
37 pages
EDRS Price MF - $0.76 HC - $1.95 Plus Postage

EQUIPMENT AND SUPPLIES

LAYOUT AND DESIGN

Light tables

Adjustable chairs

Metal T-squares

Metal triangles

Line gauges

Scissors

Rubylith

Exacto knives

#11 exacto blades

2-H pencils

Light blue pencils

Clear acetate

Reduction wheel

Lucite roller

Waxer

Rubber cement

Register marks

Masking tape

Tissue paper

White opaque

Matte knife

Border tape

COMPOSITION

Selectric composer

Photographic typesetter

Photographic headliner

Photographic processor

Photographic paper

Photographic chemistry

Adhesive lettering

Clip art

PHOTO CONVERSION

Horizontal camera

Temperature control sink

Diffusion-transfer processor

Densitometer

Contact printing frame

Point source light

Red safe lights

Timer

Magnifying glass

Developing trays

Tray thermometer

133 line contact screen

100 line contact screen

Screen angle indicator

Paper cutter

Darkroom graduate

Film squeegee

Camera lens filter

Halftone flashing light

PHOTO CONVERSION (continued)

Master halftone computer

Small halftone computers

12 step reflective gray scale

Rubber contact roller

Ortho film

Duplicating film

Panchromatic film

Photographic litho paper

Diffusion-transfer negative paper

Diffusion-transfer receiver paper

A & B litho developer

Indicator stop bath

Rapid fixer

Plastic containers

Diffusion transfer developer

Diffusion transfer activator

STRIPPING & PLATEMAKING

Plastic masking sheets

Tape dispenser

Red litho tape

Transparent tape

Opaque

Opaque brushes

Glass cleaner

Film line cutter

Screen tints (10%, 30%, 50%)

Film cleaner

STRIPPING & PLATEMAKING (continued)

- ⅛" register pins
- ¼" punch
- Platemaker
- Platemaking sink
- Storage cabinets for plates and masking sheets
- 21 step transparent gray scale
- Subtractive plates
- Additive plates
- Subtractive developer
- Additive developer
- Process gum
- Developing pads
- Developing sponges
- Direct-image plates
- Electrostatic plates
- Electrostatic etch
- Electrostatic brush
- Color-key proofing materials
- Silverprint proofing material
- Color-key developer

PRESSWORK

- Offset duplicators
- Dampening covers
- Fountain solution
- Rubber blankets
- Offset ink
- Ink knife

PRESSWORK (continued)

Ink dryer

Ink scale

Shop rags

Blanket wash

Plate cleaner

PH sticks

Rubber rejuvenator

Glaze remover

Litho pads

Perforating and scoring material

Clean-up sheets

Hand cleaner

Electrostatic tinsel

5 gallon safety cans

FINISHING

Paper cutter

Folder

Collator

Stitcher

Power drill

Table jogger

Numbering machine

Padding compound

NCR padding compound

Padding brush

Pad counter

Padding press

FINISHING (continued)

Drying racks

String dispenser

3" tape and dispenser

OCCUPATIONAL OPPORTUNITIES

LAYOUT AND DESIGN

- Art director
- Layout person
- Layout artist
- Illustrator
- Paste-up person
- Keyline artist

COMPOSITION

- Composing room foreman
- Strike-on typesetter
- Photo typesetter
- Tape perforating machine operator
- Computer operator
- Proofreader

PHOTO CONVERSION

- Line and halftone cameraman
- Color cameraman
- Commercial photographer
- Color scanner operator
- Lithographic artist (retoucher)
- Photostat operator
- Cameraman helper
- Film processor

STRIPPING AND PLATEMAKING

- Stripper
- Platemaker

PRESSWORK

Print shop foreman

Offset press operator

Offset duplicator operator

Web press operator

Press helper

Pressroom mechanic

FINISHING

Bindery foreman

Bindery worker

Cutter

Collator

Stitching machine operator

Folding machine operator

MANAGEMENT, SALES, ETC.

Production manager

Estimator

Graphic arts research scientist

Graphic arts educator

Sales representative

Technical representative

Salesman

- Supplies
- Equipment
- Paper
- Ink
- Etc.